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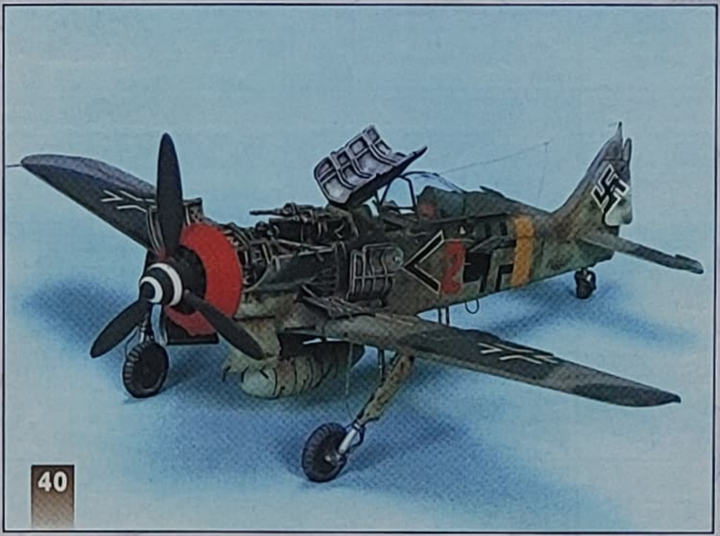

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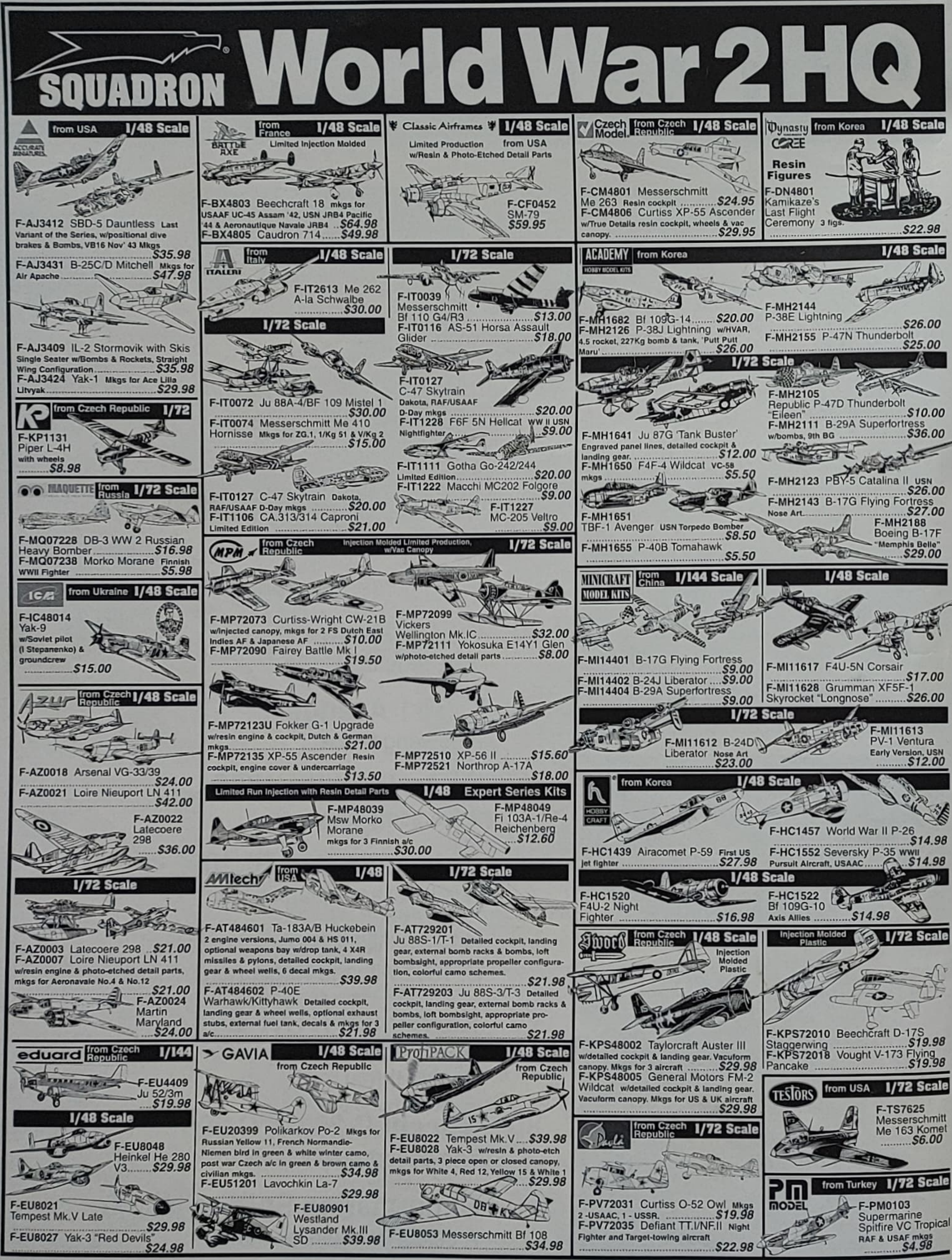

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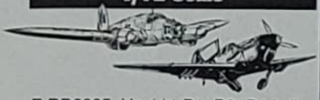

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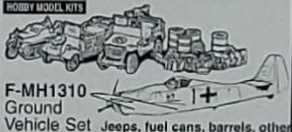

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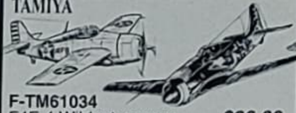

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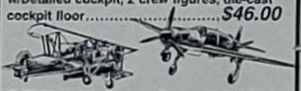

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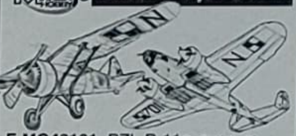

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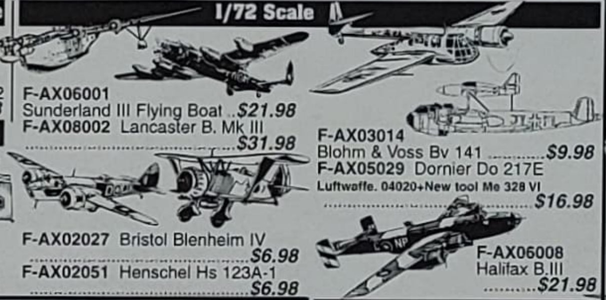

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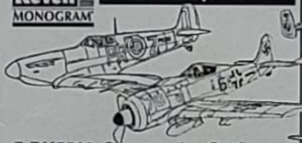

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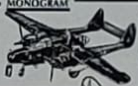

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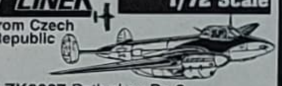

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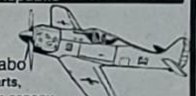

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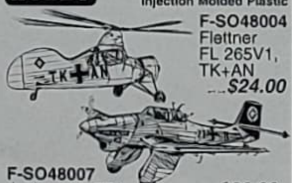

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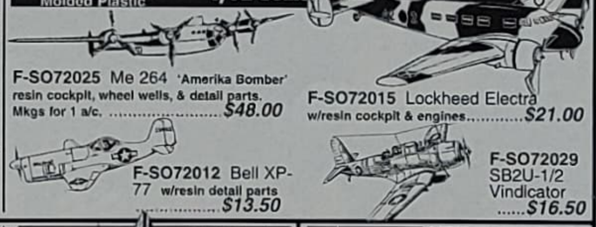

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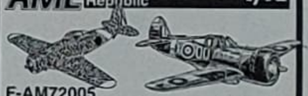

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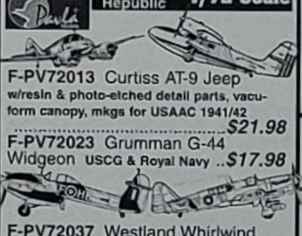

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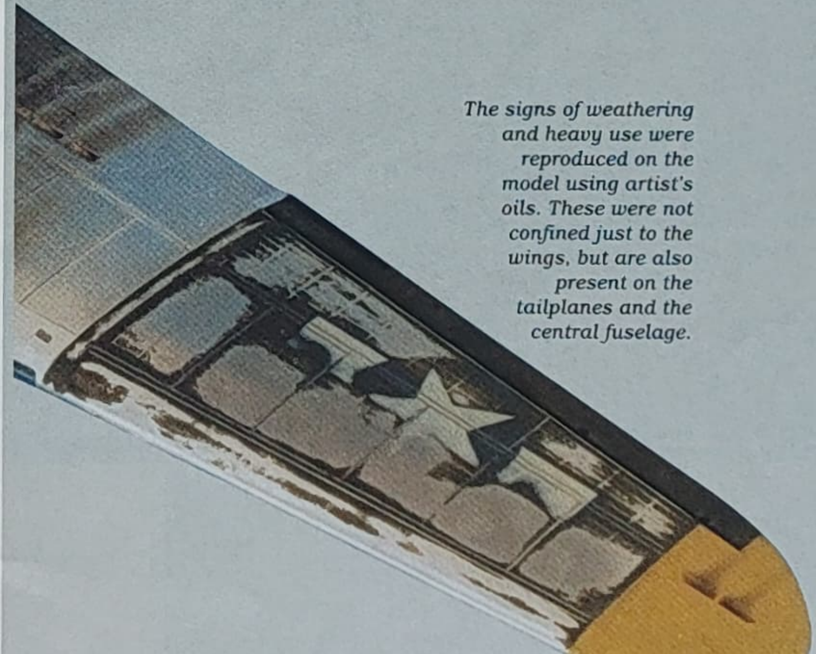
B-17G

Flying Fortress vs Fortress Europe

The B-17's development from a graceful aircraft of doubtful efficiency to a powerful tool of mass destruction in less than a decade makes the Flying Fortress a significant part of aviation history. It is well represented by Monogram's 1/48 scale kit.

MEGAS TSONOS

The advantages of "wallpapering" the model in aluminum foil can be clearly seen in this front right view.



The signs of weathering and heavy use were reproduced on the model using artist's oils. These were not confined just to the wings, but are also present on the tailplanes and the central fuselage.

B-17G: Monogram (kit No. 5600)
Paragon Designs:
- **Propeller governors & wing intakes (48014)**
- **B-17 crew access doors (48052)**
- **B-17 flaps (48103)**
- **Open bomb bay (48104)**
- **B-17 Cheyenne tail turret (48105)**

Eduard Model Accessories:
- **B-17F/G interior (48207)**
- **B-17 exterior (48208)**
- **B-17 armament (48209)**

B-17G update set: Verlinden Productions (0718)
B-17 wheels: True Details (48 010)
"A Bit O' Lace" Decals: Superscale (SS 48021)

Enamels: Xtracolor, Humbrol
Adhesives: Humbrol, Microscale
Zap super glue
Pastel chalks: Rembrandt
Artist's oils: Winsor & Newton
Clear coat: Xtracolor
Decal solution: Microscale

The characteristic lines of the B-17 serve today as inspiration to artists who want to depict the golden age of aviation. They also inspire modelers to build a display of this famous bomber. Historically, the B-17 was a weapon system that disrupted the enemy's productive capacity. Serving in the "Mighty Eighth" alongside the B-24, it provided the solution to the problem of suppressing industrial production in the very heart of the Third Reich. Yet it was the battles in enemy skies, often of epic proportions, and the people who worked from the production lines to the flight lines of the squadrons that operated the aircraft, that made the B-17G a legend in its own time. The legend was enacted in the decade between 1935 and 1945. All this provided the very necessary impetus for me to undertake this rather difficult project.

With all these thoughts in mind, I set about constructing a 1/48 scale Monogram B-17G finished in the colors of a well-known aircraft which served with the 709th Bomb Squadron, 447th Bomb Group, 8th U.S. Air Force: The B-17G-40-VE, serial number 42-97976, nicknamed "A Bit O' Lace."

One could easily say this is an old kit that is always in fashion. It has been on model shop shelves longer than the real B-17 remained in USAAF service! It has been displayed in shop windows, and it has been seen in countless dioramas! Nowadays, Monogram's reliable yet technologically surpassed tooling continues to produce kits. However, by today's standards, the kits require a lot of refinement. One has to turn to the aftermarket accessory industry to breathe new life into this good old kit. Although this is an expensive route for anyone, it allows the Monogram B-17 to stand proudly next to models designed 20 years later.

CONSTRUCTION

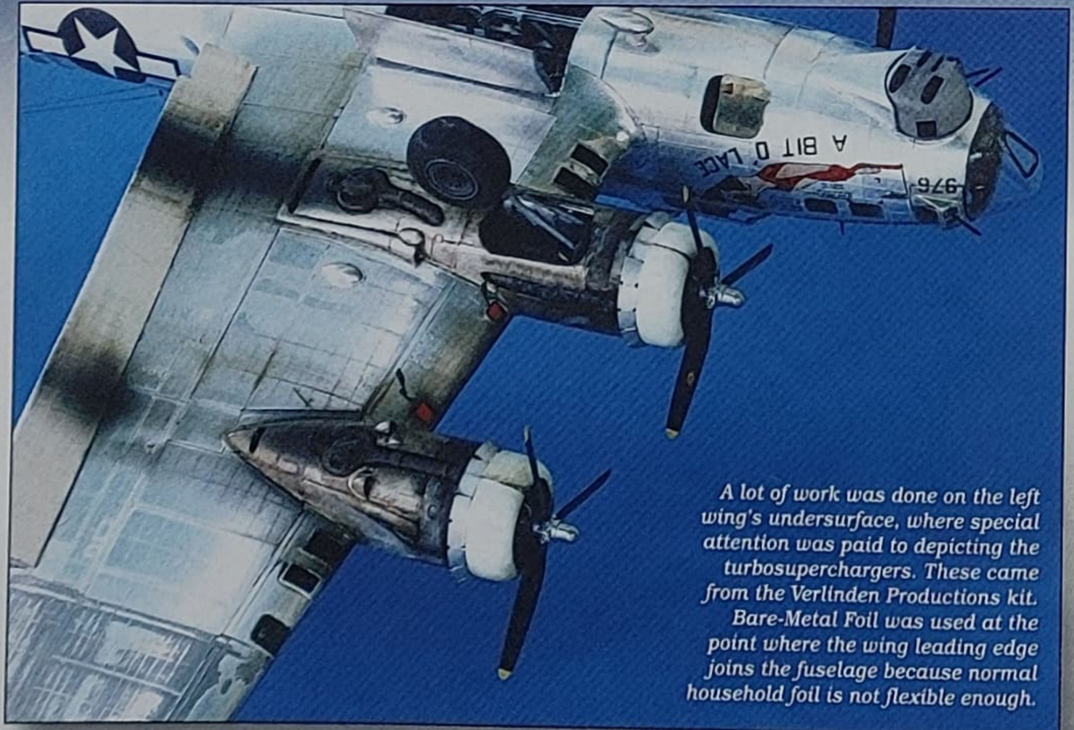
Building a four-engine aircraft kit straight from the box is hard enough without having to make drastic changes to improve shortcomings of the basic kit. The first task was to draw up a list of priorities so that work could progress in a logical and practical way. The place to start was the bomb bay. The lower part was easily corrected with Paragon Designs' resin kit. The upper part was made from sheet styrene and the fuselage internal

The replacement section of the left wing and the inverted V on the right wing serve to fill otherwise empty areas and add visual interest.

A lot of interior detail is visible through the carefully fitted clear parts. Even the stenciling on the crew seats' backrests can be seen.

An overall view of the impressive color scheme. All the colors that identified the aircraft's squadron are visible.

A lot more work was required to correctly apply the foil to the model's undersurfaces. The various recesses and the booster pump fairings complicated things considerably.



A lot of work was done on the left wing's undersurface, where special attention was paid to depicting the turbosuperchargers. These came from the Verlinden Productions kit. Bare-Metal Foil was used at the point where the wing leading edge joins the fuselage because normal household foil is not flexible enough.

construction was represented with Evergreen plastic strips. As the B-17 fuselage has a circular cross-section, Monogram's bomb cradles are the wrong size, so new ones were scratch built from stretched sprue. Electrical boxes and wiring completed the bomb bay detailing. Two sheet styrene bulkheads closed off the bomb bay, and work could now move on to the forward fuselage.

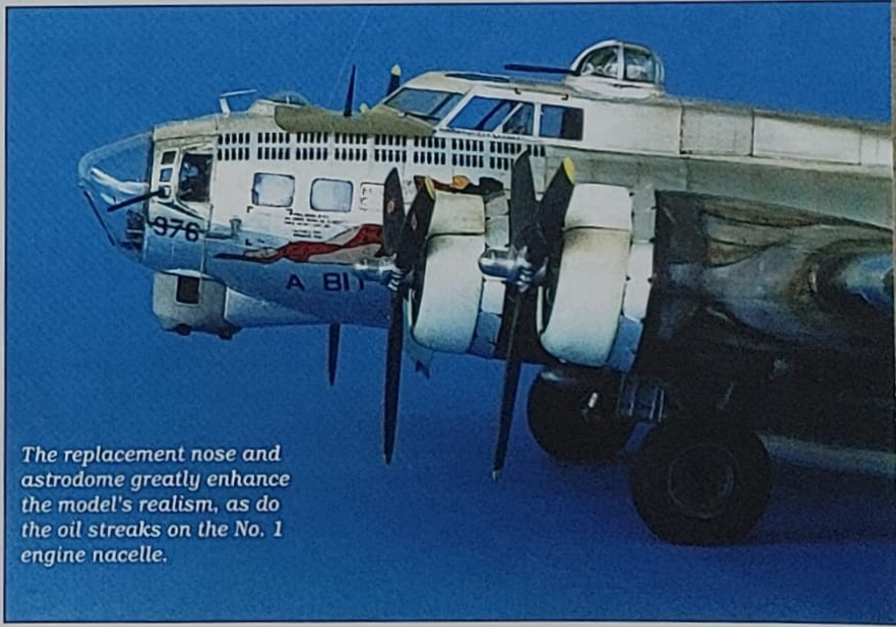
The cockpit sides and the canopy above the seats were reconstructed. Oxygen bottles from the Monogram B-29 kit were used because they were identical on both aircraft. They were painted yellow and placed on both fuselage sides next to the turret. All clear parts were replaced by clear acetate with framing from the Verlinden Productions set. Details were added to the underside of the cockpit floor as this would be visible through the open front crew access door. Many improvements using resin and metal parts from the Verlinden Productions set were made to the bombardier's position, the chin turret, and the navigator's station. Particular attention was paid to the dark green soundproofing blankets, which are present everywhere in the cockpit area. The Norden bombsight also received attention as this detail is the first to be seen when taking a close look at the bomber's nose. The bombardier's bubble came from the Squadron set, and the Browning .50-caliber machine guns from the Eduard photoetched set.

The only item to be added to the dorsal turret was a scratchbuilt gunsight as the detailing in this area was sufficient. Behind the bomb bay is the radio operator's compartment, which is rather poorly represented in the Monogram kit. First, the compartment's upper rear end was corrected at the point where the clear parts reveal a double ceiling; that is also where the fuselage dorsal opening is located. The clear parts were replaced by acetate, and interior detail and scratchbuilt radios and seats were added. It is worth mentioning at this point that on the B-17E/F there were four seats in this compartment as well as a machine gun mounted on the roof. In later versions at least one seat was removed as was the roof-mounted armament on late B-17Gs. So this compartment should be detailed according to the particular aircraft being represented.

Right behind the radio compartment is the gunners' compartment where the aircraft's main entry door is located.

A little wiring, a propeller pitch governor, and cowl flaps were all that was needed for a realistic engine based on the kit's parts.

A close-up of No. 3 engine. The impressive result seen here required very careful application of artist's oils. SnJ Spray Metal was used for the propeller hubs which were then polished.



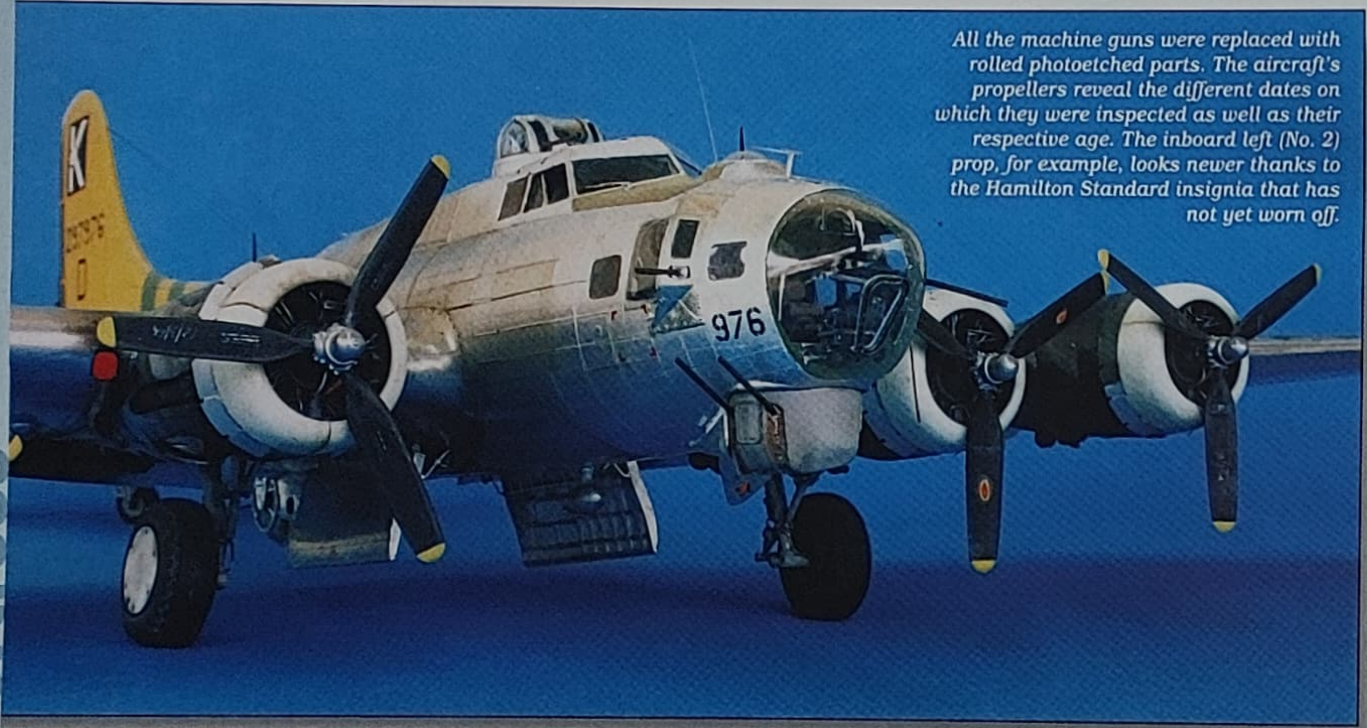
The replacement nose and astrodome greatly enhance the model's realism, as do the oil streaks on the No. 1 engine nacelle.

The two waist windows are located opposite each other, this being a feature of early fuselages. However, on this particular aircraft they were permanently closed. On later B-17Gs, the waist windows were staggered, one further forward than the other, so the gunners would not get in each other's way when in action. On the particular B-17 being depicted, the wind deflectors in front of the windows were kept in place, although they had no function.

With the waist windows "closed," the only interior detail visible is a small part of the interior structure of the fuselage, which was left in unpainted natural metal on the aircraft. The port side detail is visible through the open fuselage door. So little is visible in the end that it wasn't worth adding a lot of detail. In contrast, quite a bit of work is needed to improve the ball turret. The access hatch to the turret was cemented in the open position, and the turret's support brackets were thinned and improved to achieve a better scale effect. The gunner was jammed into this spherical turret with his back resting against the hatch. It is easy to see why the gunner was never inside the turret during takeoff or landing. When on the ground, the turret could be opened from the outside for maintenance, and that is how I have depicted it on my model. Additional details in this area are the gunsight, some wiring, and photo-etched gun barrels from the Eduard set.

Moving on to the tail area, the Monogram B-17G was converted to a later type by the addition of the tail "Cheyenne" turret. This got its name from the Cheyenne Armament Modification Center that carried out the modification on newly manufactured aircraft before they were transferred to front-line service.

The Cheyenne turret took the place of the original Boeing one and was made up of a semi-spherical coaming from which the two machine guns protruded. The window was larger, providing a much better view for the gunner, who sat on a bicycle-type saddle. Ammunition belts ran on his right and left from boxes located further forward behind his back. Two ride-smoothing spoilers on the turret exterior controlled the airflow and at the same time facilitated the movement of the guns. The gunner was protected by an armored glass screen between him and the gunsight.



All the machine guns were replaced with rolled photoetched parts. The aircraft's propellers reveal the different dates on which they were inspected as well as their respective age. The inboard left (No. 2) prop, for example, looks newer thanks to the Hamilton Standard insignia that has not yet worn off.

Conversion work in this area entails building the clear turret and joining this to the fuselage. Using a circular saw attachment on a motor tool, the part of the fuselage that is not needed was removed and replaced by the resin part from Paragon Designs. However, the clear parts were not satisfactory in any of the available detailing sets, so they were scratchbuilt based on plans of the aircraft. The Monogram tailwheel is overly simplified, so it was discarded and replaced with the part from Verlinden Productions. The wheel well was made from sheet lead to simulate the canvas that was used to separate that area from the rest of the fuselage.

Work on the fuselage was not yet complete. The two halves had to be joined after the wings were cemented in position. More on that later...

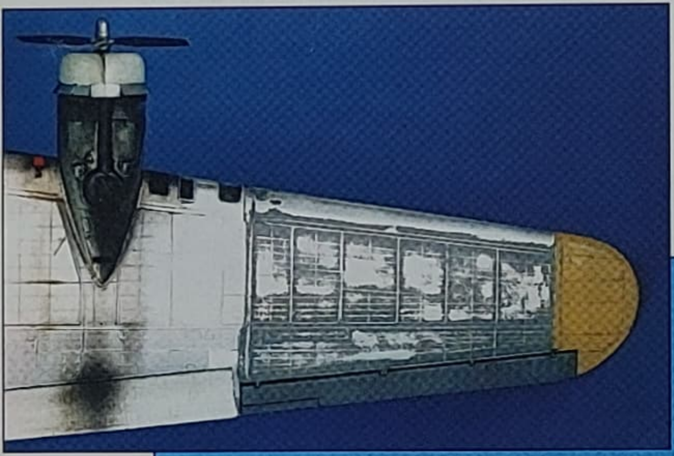
WINGS AND FINAL ASSEMBLY

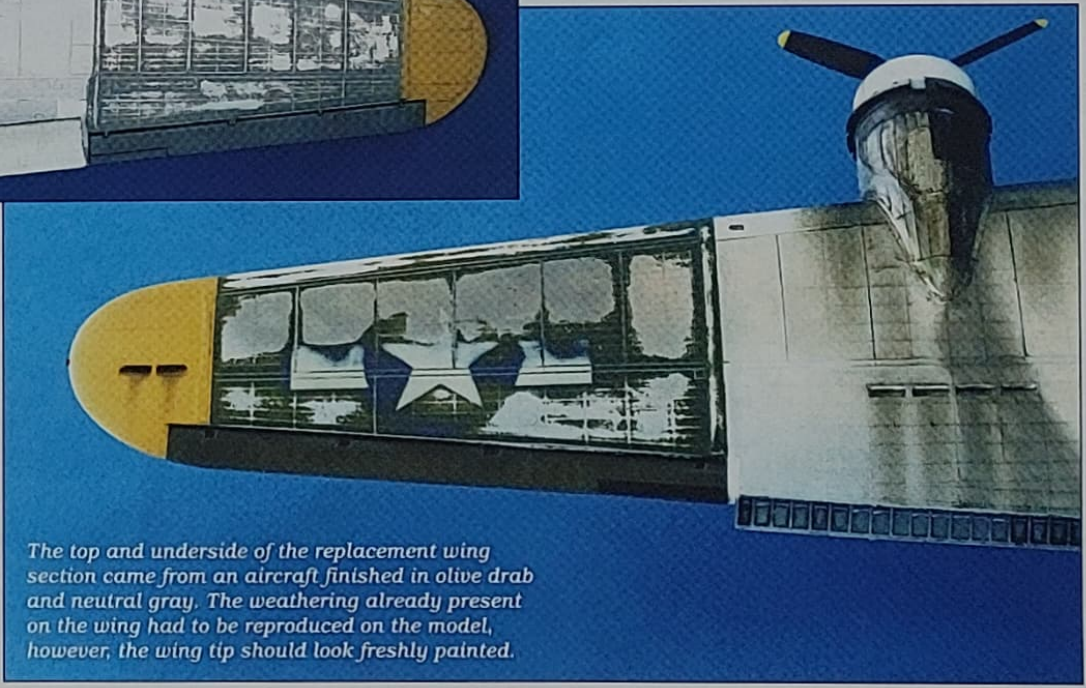
The wings are another area of the model that really benefits from the addition of the resin parts, as the kit parts are far too simplified. The flaps, undercarriage, wheels, and oil coolers, as well as the engine intercooler intakes, are some of the many aftermarket parts available to improve the original kit's detail.

When the B-17 was on the ground, the flaps were seldom in the lowered position. However, I dropped mine to show the added detail in an otherwise featureless area. The Paragon Designs set was a great help. The detail inside the landing gear wells was scratchbuilt and consists of the engine nacelles' interior structure and the exhaust ducting to the engine turbosuperchargers. The landing gear legs and wheels were replaced by resin parts from the Verlinden Productions and True Details sets respectively. After the undercarriage, I turned to the General Electric B-22 turbosuperchargers, four of which provided that vital extra power needed at high altitudes where the air is thinner and the R-1820-97 engines' performance suffered. The turbosupercharger was a technological achievement for its time and the B-17's performance was dramatically enhanced by

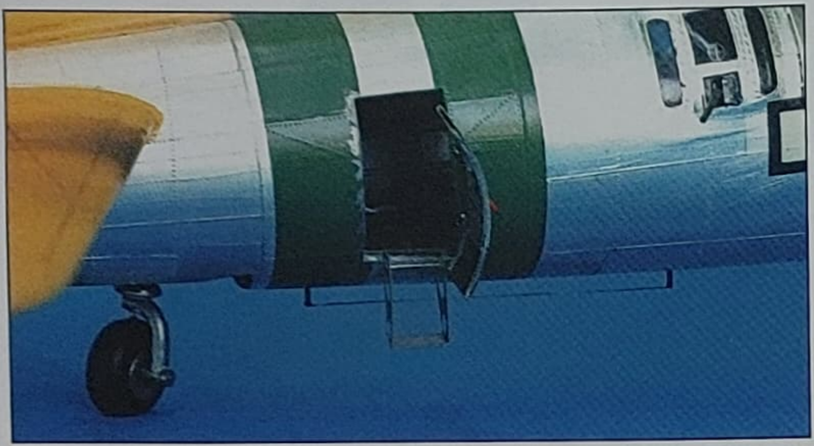
After the tail turret, the B-17's most useful armament was the ball turret. This close-up shows the open access hatch. On the fuselage, the waist gun's wind deflector is visible; it remained in place despite the fact that on later aircraft (as on the model) the windows were permanently closed.

The starboard wing's upper surface reveals the flaps with their internal detail. The dark blue inverted V was an attempt to distinguish the aircraft belonging to the various bomber groups. This scheme was short-lived, so when the left wing's outboard section was replaced, no effort was made to add the V underneath.





The top and underside of the replacement wing section came from an aircraft finished in olive drab and neutral gray. The weathering already present on the wing had to be reproduced on the model, however, the wing tip should look freshly painted.



The aircraft's entrance and access ladder. The tailwheel has a small metal support pin which strengthened it, an important point on such a heavy model.

As is apparent on photographs of the actual aircraft (see history box), the yellow area does not join the tailplane to the fin on the right side as it does on the left side of the fuselage.

having it, contributing in no small measure to the bomber's success.

The General Electric B-22 was designed for the Wright R-1820-97 Cyclone engine, which powered the B-17G from Block 25 until the end of the type's production run. It replaced the B-2 (used on the B-17C to the B-17F) and B-3 (B-17A/B) turbosuperchargers. The Verlinden Productions set offers an acceptable but rather mediocre solution, but it was used on the model for lack of anything better. The engines themselves were enhanced with details that would be visible from the front such as oil hoses, propeller governors, ignition wiring, and push-rods. The engine cowl flaps were placed in the open position. Red blanking plates closed the engine radiator intakes, mainly for aesthetic reasons since the relevant aftermarket parts were at hand. The engines were left off until assembly of the wings and fuselage was finished.

Dry runs were made for all the fuselage detail subassemblies to make sure that everything would fit properly in place when the two fuselage halves were joined together. As the wings were already complete, attention turned to attaching these to the fuselage halves.

Monogram's designers devised a way of locking the wings to the fuselage using a slot and sliding the wing forward to its final position on the fuselage. This system, however, prohibits the opening up of the bomb bay. A way had to be found to change all this without weakening the joint of the wing to the fuselage. Added to this, the wings' undersurfaces have no point of contact with the fuselage, making the joint somewhat precarious. So after this gap was filled with thick sheet styrene, the slots in the fuselage were filled and the tabs that hold the wing to the fuselage removed. The wing root surface now had complete contact with the fuselage side but no means of structural support. With the wings temporarily attached to the fuselage halves, 2.5mm holes were drilled and small rivets used to achieve the necessary structural support. When the riveting of the wings to the fuselage was completed and the dihedral checked, liquid cement, and super glue firmly joined the pieces together. This way a strong joint was obtained as well as the space needed for the bomb-bay details. The fuselage halves were brought together and assembly was completed by attaching the turrets, radio compartment, clear parts, and other details.

A close-up view of the model's tail section reveals the conversion needed to replace the Bendix tail turret with the Cheyenne type. The olive drab finished surfaces provided an excellent opportunity to apply weathering using pastel chalks.

The B-17G's impressive nose section was made even more attractive with the 'A Bit O' Lace' nose art. The chin turret is possibly a leftover from an earlier production batch as it was left in neutral gray instead of being unpainted aluminum.

PAINTING...

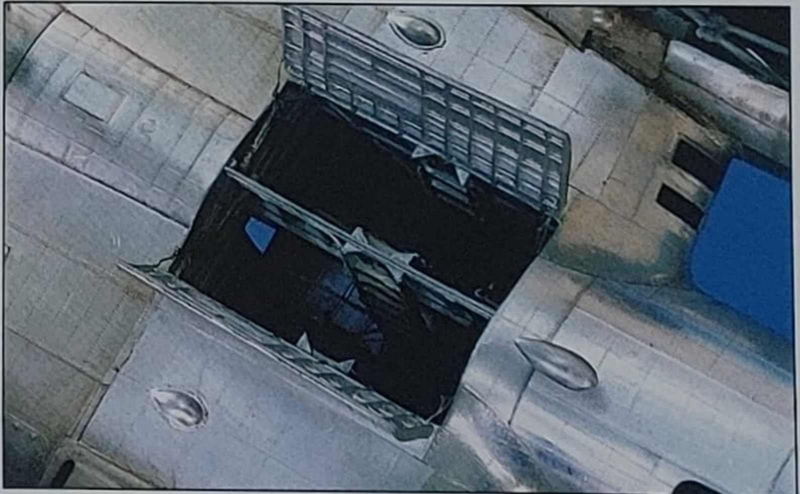
... Or maybe I should say "decorating," since 90 percent of the model is not painted but covered in household aluminum foil! The realism created by the unpainted aluminum surfaces and the different shades that it takes on according to the lighting conditions, were the motivation behind experimenting with this method on a subject as distinctive as the B-17G.

The aluminum foil was glued to the model using Microscale's Micro Metal Foil Adhesive, a product that can be cleaned off with water when still wet but needs mineral spirits to remove it after it sets. Small areas of the aircraft were masked off individually along panel lines and sprayed with the Microscale adhesive. Ten minutes (at the most) later, the surface was ready for the application of the foil. For each panel, a larger piece of foil was applied and smoothed into place using a ballpoint pen cap. Once fitted, the foil was trimmed to size and the next panel tackled. About 80 percent of the model's surface was given the foil treatment before the final assembly, leaving only the bits where join lines would be for the end. The areas that were to be painted – like the tailplanes and fin, control surfaces, wing tips, and engine cowlings – were left uncovered. The raised detail was rescribed on the painted surfaces. Rivet detail was rescribed on all the model's surfaces as it is a very characteristic aspect of all aircraft from this period. The final weathering of the surfaces was achieved using raw umber, titanium white and ivory black artist's oils.

A BIT O' LACE

This is an aircraft with history a lot in common with thousands like it. However, the color photo, the bright colors, the nose art, and the fact that 42-97976 became a veteran made it stand out. All this justifies Microscale's choice of subject for a sheet containing the necessary markings for this particular B-17G. No. 42-97976 started life as B-17G-40-VE built at Lockheed's Vega plant in Burbank, California. After completion it underwent conversion to receive the Cheyenne turret and was assigned to the 709th Bomb Squadron, 447th Bomb Group, at Rattlesden in Britain in March 1944. In September 1944 the engine cowlings were painted white as on all 709th aircraft, even though

The wing center section. The structure of the bomb bay doors can be seen as well as the subtle weathering with artist's oils and pastel chalks.



The well-known photographs by Charles Brown show how colors were used by the 8th Air Force for unit identification purposes during WWII. "Lace" had a yellow painted fin and tailplanes. On the left side the colors met on the fuselage. This did not happen on the right side. Variations caused by replacement of subassemblies due to battle damage were commonplace (see inset).

later on it served with the 711th Squadron at the same airfield, retaining its white cowlings instead of having them painted blue.

Towards the end of 1944, two blue stripes set in a V were painted on the upper right and lower left surfaces of the wings, while in January 1945 it received its yellow surfaces and wingtips. The new marking for the 447th BG was two green stripes on the fuselage. However, the stripes on the wings were not removed. On April 4, 1945, "Lace" was hit during a mission over Kiel, sustaining severe damage to the tail control surfaces, the fin, and the outboard part of the left wing. All the damaged parts were replaced by ones painted in olive drab/neutral gray, including the left outboard wing section, all of them apparently coming from another aircraft.

This was the color scheme chosen for the model, even though toward the end of hostilities "Lace" probably received squadron codes on the wing undersurfaces.

As for the famous name, it came from Miss Lace, the character in Milton Caniff's "Male Call" comic strip featured in magazines read by the aircrews at the time. Miss Lace provided the inspiration for Lt. John H. Bauman and the crew of 42-97976, which, at the time, was still unnamed. When the crew decided it wanted to paint "Miss Lace" on the aircraft, a formal letter was sent to the artist requesting his permission to use the character. It was answered: "A bit o' Lace for Lieutenant John H. Bauman and the gang with my very best wishes. Milton Caniff, N.Y. October 1944."

This was enough to give 42-97976 its artwork, which was painted by Nickolas Fingerlly, whose signature appears beside the reclining woman.

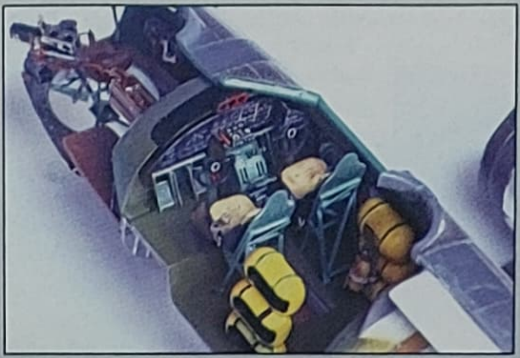
It made Lt. Bauman and the crew who flew and fought in 976 happy and proud. It was now "their own" bomber and not just another impersonal B-17G with a serial number.

LAST DETAILS

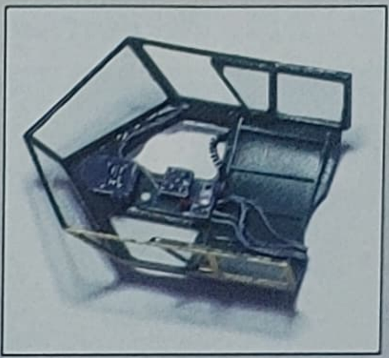
After painting the areas that had not been covered with foil and weathering the finish, all the landing, navigation, and formation lights were added from stretched clear sprue, appropriately painted and fixed in place. The two bomb-bay doors, which were usually open on the real aircraft

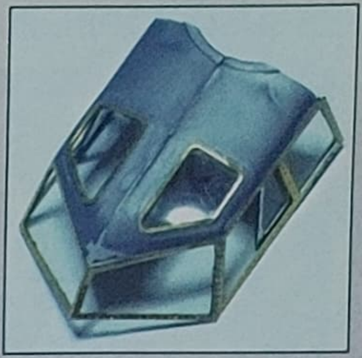
B-17 nose detail after improving the Monogram kit. The opening for the chin turret and the simulated wooden surface on the floor and navigator's desk can be seen, these last two being Aeromaster Decals.

The front fuselage interior detail. The oxygen bottles from the Monogram 1/48 B-29 can be seen.

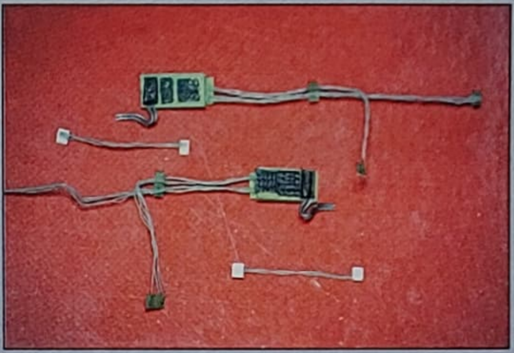


A cockpit close-up shows off the instrument panel, rudder pedals and seats scratchbuilt from sheet styrene. Unfortunately much of this detail was no longer visible when the fuselage was closed up.

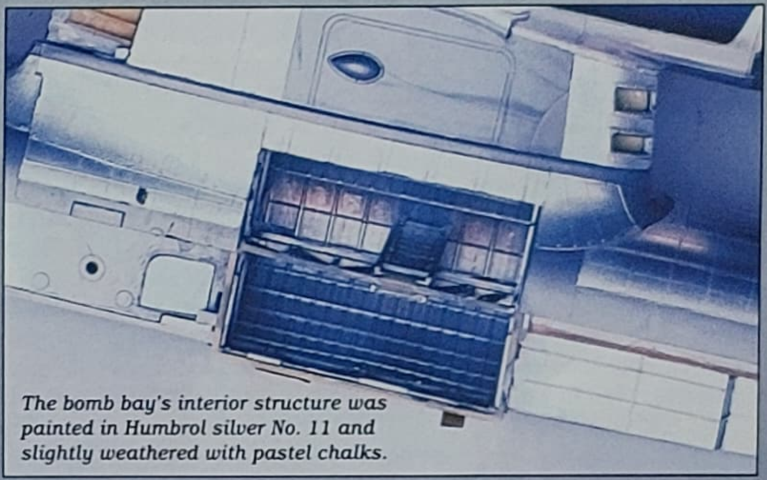




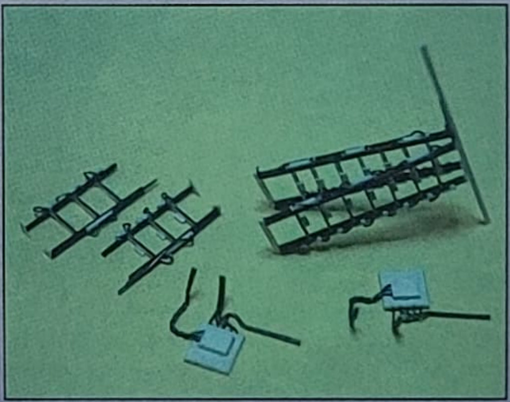
The cockpit canopy was separated from the rest of the kit due to the work required in this area.



Fuse boxes and wiring that helped enhance the detail in the bomb bay.



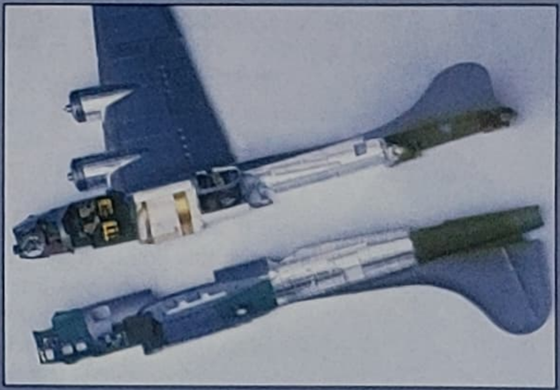
The bomb bay's interior structure was painted in Humbrol silver No. 11 and slightly weathered with pastel chalks.



The central control boxes for the bomb bay and the scratchbuilt bomb cradles, all essential components for this area.

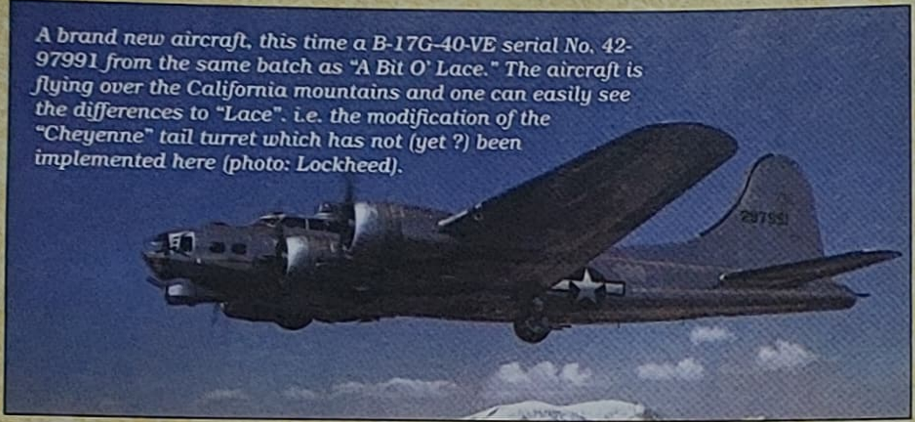
The bomb bay was reinforced with a strip of brass super glued into place. This was done to prevent the plastic parts from coming apart when they were under pressure. A tab placed over this point would later facilitate the correct assembly of the fuselage. Note the double-skinned structure of the fuselage directly above the radio compartment.

A close-up of the tail section including the tail turret detail and the scratchbuilt tailwheel compartment. The canvas covering the tailwheel leg was fashioned from sheet lead and painted tan on the side that would be visible from the outside.



All the fuselage work can be seen here. The open fuselage door and the starboard wing already covered in foil can also be seen.

BOEING MODEL 299 B-17 FLYING FORTRESS



A brand new aircraft, this time a B-17G-40-VE serial No. 42-97991 from the same batch as "A Bit O' Lace." The aircraft is flying over the California mountains and one can easily see the differences to "Lace", i.e. the modification of the "Cheyenne" tail turret which has not (yet ?) been implemented here (photo: Lockheed).

In May 1934 the U.S. Army Air Corps published a requirement for a multi-engine aircraft to fulfill the roles of shipping attack and coastal patrol. Boeing's designers began work on a four-engine aircraft on June 18, 1934, their aim being to achieve the Martin B-10's carrying capacity over longer distances, greater height and at faster speeds. Thirteen months later, on July 28, 1935, Model 299 made its maiden flight. At the time it was the largest all-metal monoplane built for such a role. Its exceptional capabilities were overshadowed briefly by the crash of the prototype Model 299 at Wright Field on October 30, 1935.

The B-17B with a new rudder and nose started coming off Boeing's production lines, soon to be followed by the B-17C, which first flew on July 21, 1940.

WWII had by then begun, and the RAF was the first to use the B-17C, which it called the Fortress I. It was used solely for day bombing, but early sorties revealed problems with the machine guns, the Norden bombsight, and the aircraft's defensive design.

The feedback of data to Boeing, which by now had the B-17D in production (a few of which later saw action against the Japanese in the Pacific), resulted in the redesign of the aircraft to produce the E version.

Photographed outside the Boeing factory in August 1940, a brand new B-17C with old style national insignia. All the details that distinguish it from later sub types can be readily seen. (photo: Classic Aircraft Bombers).

The B-17E first flew on September 5, 1941, and was the first Fortress with hydraulically operated turrets and a tail turret. On January 28, 1942, the 8th Air Force was formed in the United States, an event that was to have a profound effect both on the developments of war in Europe and on the B-17. In February 1942, the "Mighty Eighth," as it became known, was transferred to Britain, and its first bombing mission against Rouen in France took place on August 17, 1942.

In mid-1942, the B-17F went into production, significantly advancing the design with new propellers, a longer nose bubble, and the ability to carry external loads. 3,405 B-17Fs were built in total before Boeing switched production to the bomber's definitive type, the B-17G. The B-17G first flew on May 21, 1943, and incorporated in its design all the experience that had so far been accumulated. The greatest difference from previous types was the chin turret and the changes to the aircraft's electrical system. 8,880 B-17Gs were built altogether by three manufacturers: Boeing in Seattle, Lockheed in Burbank, and Douglas in Tulsa, Oklahoma. Boeing alone at the time was turning out 16 B-17Gs a day, apart from all the other aircraft types it had in production. The last B-17G left the Boeing factory on April 9, 1945, and was handed over to the USAAF four days later.

When hostilities ended, thousands of aircraft were left unused at airfields. On February 26, 1946, the 8th Air Force Headquarters finally left Britain. All its aircraft had left for the USA six months previously.

On January 13, 1947, the first remote control test flight took place with one B-17G flying another. Twelve years later the B-17 was still flying with the U.S. Coast Guard, the last PB-1G being retired on October 14, 1959.

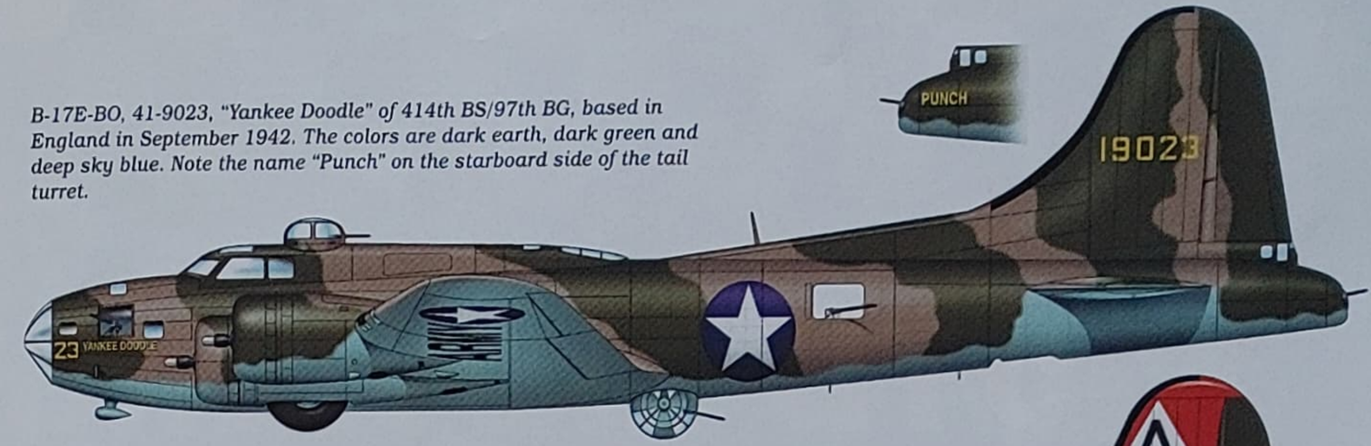
The history of this famous aircraft officially ended nine months later when the USAF's last QB-17 drone was shot down in June 1960. After its military career, B-17s were used in civil aviation as water bombers, transports, and even as luxury personal conveyances.

Today there are some 20 B-17s flying all over the world. Five of these (three from the U.S. and two from France) came together once more in Britain for the shooting of the film *Memphis Belle*, providing a taste of the dark days of 1943, half a century later and 60 years after the first flight of Model 299.

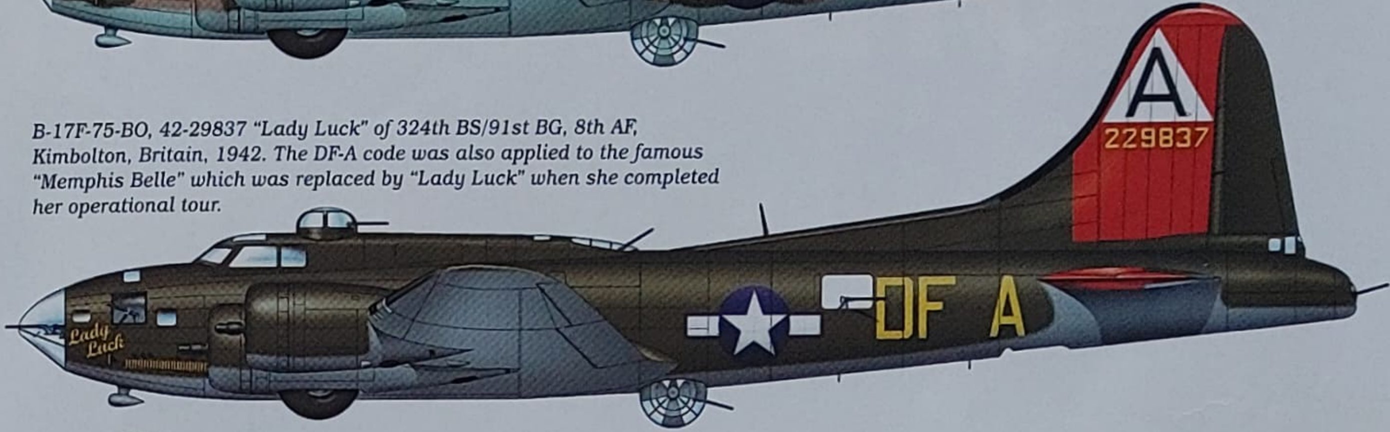
when it was on the ground, were attached to the model at this point, as were the access doors. An access ladder fashioned from sheet styrene was hung from the fuselage's rear door. The propellers were thinned to acquire a better scale look. After that, they were painted and slightly weathered, and then fit to the engines. All the gun barrels were added to the turrets, then the antennas and pitot tube were added to the aircraft.

When the great photographer Charles Brown captured "A Bit O' Lace" on film, flying over the fields of England, little could he have imagined that 50 years later his photographs would still carry the feeling of those days. Surely nobody would willingly go back to those times. Although they were great, the memories are rekindled by the characteristic profile of the B-17 in model form. My finished model takes me painlessly closer to that place and time. ■

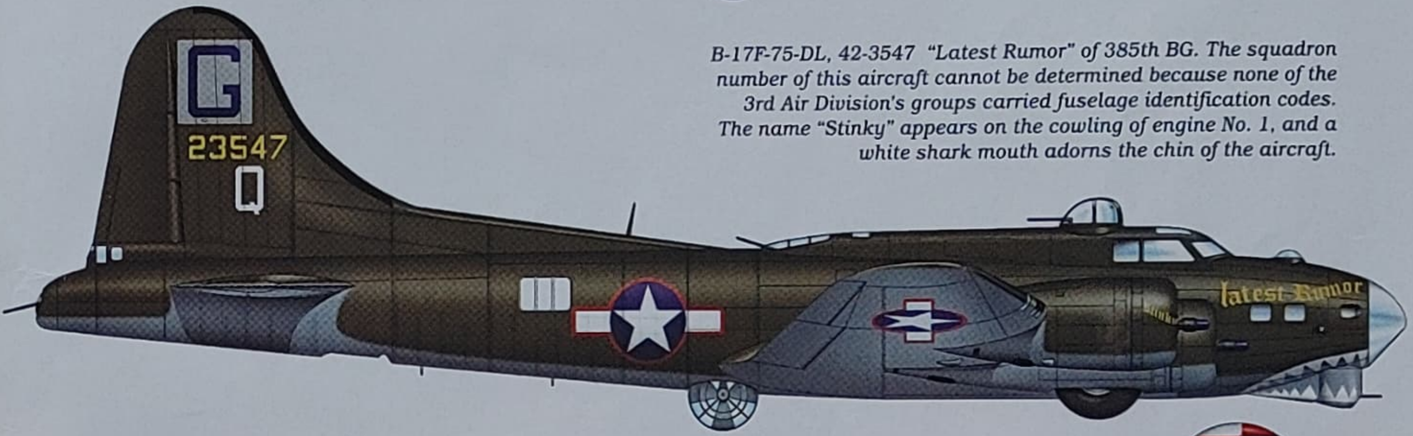
B-17E-BO, 41-9023, "Yankee Doodle" of 414th BS/97th BG, based in England in September 1942. The colors are dark earth, dark green and deep sky blue. Note the name "Punch" on the starboard side of the tail turret.



B-17F-75-BO, 42-29837 "Lady Luck" of 324th BS/91st BG, 8th AF, Kimbolton, Britain, 1942. The DF-A code was also applied to the famous "Memphis Belle" which was replaced by "Lady Luck" when she completed her operational tour.

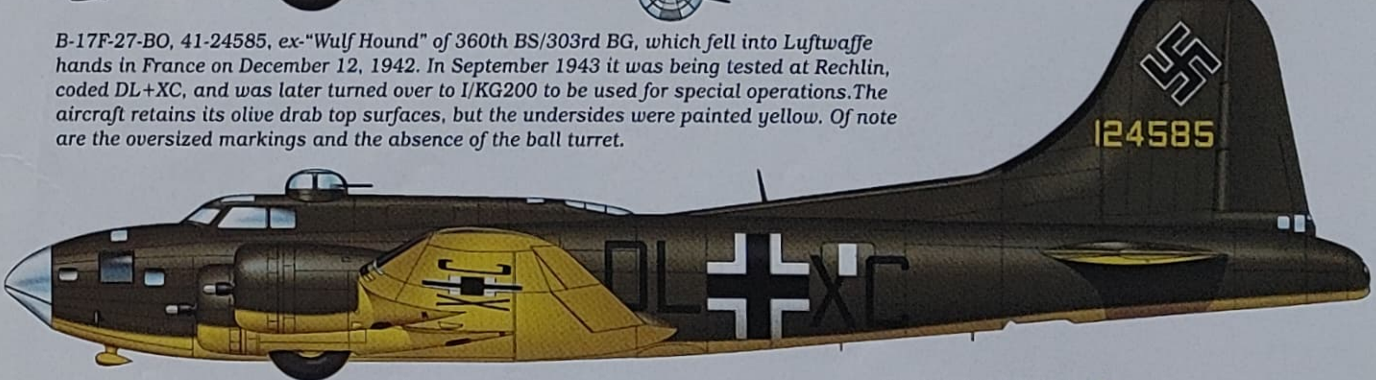


B-17F-75-DL, 42-3547 "Latest Rumor" of 385th BG. The squadron number of this aircraft cannot be determined because none of the 3rd Air Division's groups carried fuselage identification codes. The name "Stinky" appears on the cowling of engine No. 1, and a white shark mouth adorns the chin of the aircraft.



B-17G-90-BO, 43-38625, "Ole Doodle Bug" of 385th FG. The red checkerboard was a late-war identification marking for the group (as opposed to the "G" inside a square on the plane above). Note that the rudder is a replacement from a camouflaged aircraft. Red stripes are carried around the wings and tailplanes.

B-17F-27-BO, 41-24585, ex-"Wulf Hound" of 360th BS/303rd BG, which fell into Luftwaffe hands in France on December 12, 1942. In September 1943 it was being tested at Rechlin, coded DL+XC, and was later turned over to I/KG200 to be used for special operations.The aircraft retains its olive drab top surfaces, but the undersides were painted yellow. Of note are the oversized markings and the absence of the ball turret.



P-51D Mustang

"Big Beautiful Doll"

North American P-51D Mustang: Tamiya
Detail set: True Details
Vacuformed canopy: Falcon
Decals: Superscale

Enamels: Xtracolor, Humbrol, Testor
Acrylic varnish: Gunze Sangyo
Decal solution: Superscale

The "Big Beautiful Doll" in all its splendor.

Although many different types of aircraft were used during WW II by both sides, only a handful of them managed to stand out and become "Classics." Among those that achieved stardom are the Supermarine Spitfire, the Messerschmitt Bf 109, and the P-51 Mustang.

THEODOROS ORINOS

The Mustang's contribution to the allied victory was huge, and every aircraft modeler interested in this era of aviation history ought to include it in his collection.

As might be expected, a significant design like the P-51 was certain to draw the attention of the plastic kit industry. Over the years, kits of the P-51 have proliferated in various scales. In 1/48 scale, there are a number of kits available, starting with the older kits by Monogram, Arii/Otaki, and Fujimi and leading up to the most recent Hasegawa and Tamiya offerings. The last two are widely regarded to be the best.

The Hasegawa kit scores points for a better-detailed cockpit, a generous choice of underwing weapon loads, and an impressive decal sheet. Its main shortcoming is that the undercarriage bays are too shallow. On the other hand, the Tamiya kit has perfect undercarriage bays, a better general fit of parts, panel lines that are more finely engraved, and a smaller number of parts. It falls short,

The characteristic P-51 lines that earned it the nickname of "Cadillac of the skies" can be clearly seen in these photos.

however, in cockpit details and in choice of weapon loads.

I chose the Tamiya kit, solving the cockpit problems with the resin accessory kit by True Details (No. 48453), which provides excellent details. I used a vacuform cockpit from the Falcon "WW II Fighters" set, and Superscale's decal sheet No. 48039 provided the markings. More about that later on.

CONSTRUCTION

Construction started in the customary fashion with the cockpit. The kit has raised sidewall detail that has to be removed in order to fit the True Details parts. The cockpit sidewalls also have to be thinned by sanding, which is a time-consuming and tedious process. The instrument panel was painted with Humbrol flat black and dry-brushed with Testor aluminum. When everything was dry, the instrument lenses were simulated by applying Humbrol clear gloss varnish. The interior of the cockpit and the radio compartment were painted with a mixture of Testor zinc chromate green and chromate yellow. This mixture was used for the interiors of all U.S. aircraft in WW II, which is why we can see so many different shades in contemporary color photos, as the two colors were not always mixed in the same proportions. The exquisite detail provided by the True Details set was further enhanced with a dark wash and dry-brushing. The side consoles and the various instruments on the sidewalls, as well as the radio, were painted black and were dry-brushed with Humbrol's No. 67 matte tank gray.

The cockpit's wooden floor, which is very well

P-51D Mustang

Even though the checkerboard marking was a decal, it still tried my patience until it was positioned correctly.

The victory markings and the pilot's name on the red background are Fujimi decals. The rest are by Aeromaster.

represented by True Details, was painted with Humbrol's No. 110 wood. It was then given a wash of raw umber artist's oils and "dirtied" with dark gray pastel chalk.

The pilot's seat is the best part of the accessory set, and it was given the attention it deserved. It was painted green overall, with the back cushion finished in Testor olive drab. The seat harness was painted flat light gray No. 147 and the leg harness flat khaki No. 26. The completed seat was put to one side to be added at the end.

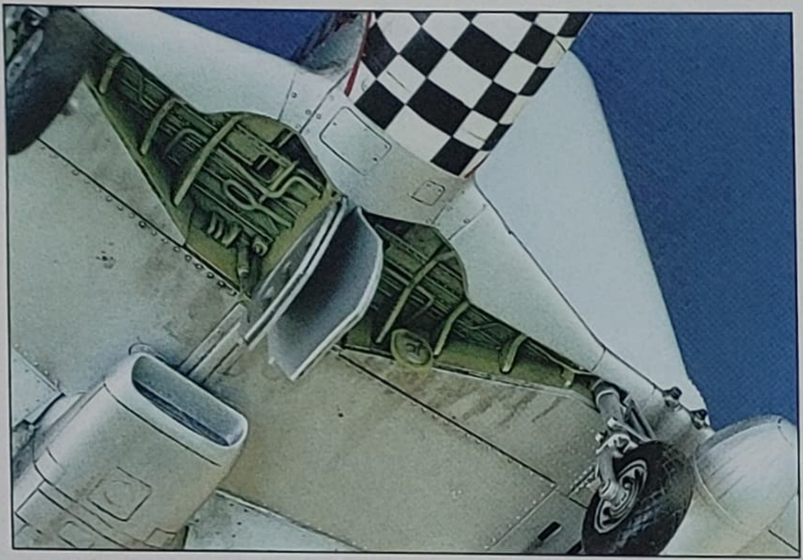
Having finished with the cockpit, I moved on to the assembly stage. I did not experience fit problems, apart from the belly intake having a "step" between the two parts. This was sanded away, and all the detail that had been removed in the process was rescribed.

As the landing gear bays are one of this kit's strong points, the only addition to them was some piping. The bays were painted green using the same mixture as for the cockpit interior, followed by a wash and dry-brushing. Special attention was given to the landing light, which is a clear plastic part. After its lens had been masked with masking fluid, it was painted in Testor chrome silver, and when this dried, it was given a coat of green. The result is very realistic, with the chrome silver paint simulating the light's reflector.

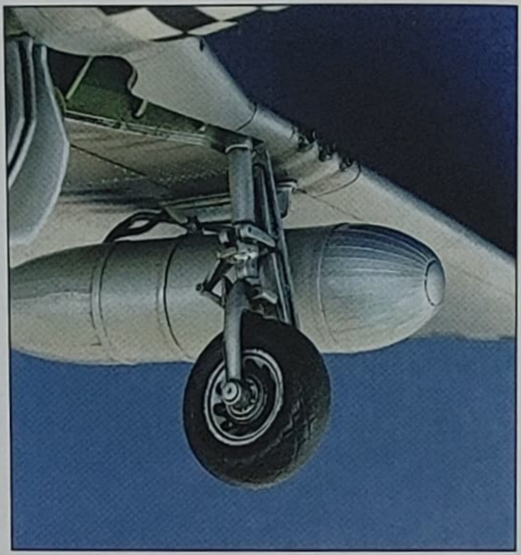
The kit provides a choice of two canopies: the standard one and one with a slightly bulged rear that was known as the "Dallas" canopy. Although the parts are very clear, they are rather thick for the scale, so I used a vacuformed canopy from Falcon's No. 3 "WW II Fighters" set.

Initially, the whole piece was removed from its carrier sheet, and then the canopy was separated from the windshield so that it could be placed in the open position. Because the windscreen part lacks the lower frame, fitting it in place turned out to be a tough job. Epoxy was used to cement it in place after a number of dry fittings helped to determine its exact position.

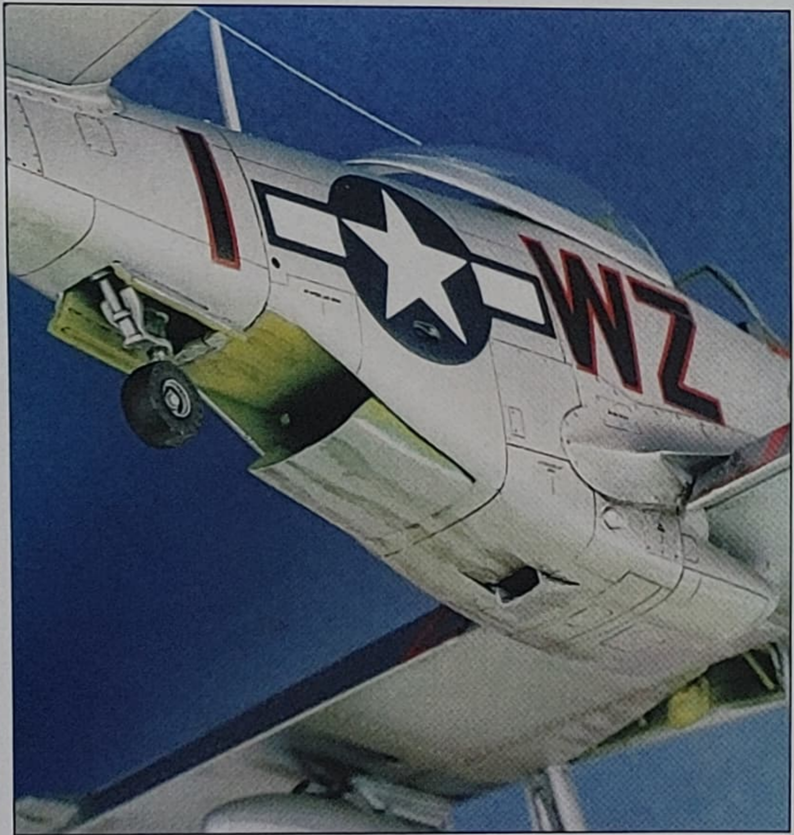
The resin cockpit parts by True Details almost make you want to get into the pilot's seat!



The kit's landing gear bays are definitely the best in this scale. Adding some piping and a careful paint job made them even better.



The left main landing gear needs very few modifications – one more of the kit's strong points.



The underside of the fuselage was the only part of the kit with fit problems.

I avoided using super glue, even though it gives a stronger joint, because the vapors tend to cloud clear plastic. Particularly in this case, where there is no frame between the clear part and the fuselage that might hide the clouding effect, the only solution was to use epoxy applied very carefully in small amounts. When the glue had set, both of the clear parts were carefully masked with very narrow strips of Tamiya masking tape. A coat of the interior's green color was applied to create the illusion of the frame's inner surface, and when this was dry, it was finished in Testor aluminum metalizer and its sealer.

PAINTING AND DECALS

The aircraft I wanted to represent was the P-51D-20-NA, serial number 44-72218, flown by Lt. Col. John Landers, commander of the 78th Fighter Group, 8th Air Force, between December 1944 and the war's end from Duxford, England.

This plane with a natural metal finish and called "Big Beautiful Doll" is considered by the author of the book *P-51 Mustang in Action* to be "the definitive in Mustang schemes" and is depicted on the front cover of the book. These are also the markings included with the only P-51 kit in 1/24 scale by Airfix. I think it is the most attractive plane to have ever graced the skies, but of course this is purely subjective.

For a "Big Beautiful Doll," appearance is everything. The aircraft has an overall natural metal finish apart from the nose and the wingtips which are finished in black and white checkers. I used the Superscale decal sheet "Aces of the 8th Air Force."

Landers flew a dozen aircraft during his career. The one represented by Superscale is 44-72258. It was used during an earlier period of the war. The two planes are very similar, but if one wants to depict Landers' final Mustang exactly, the following should be noted:

- The serial number on the fin was 472218 and not 472258.
- The olive drab anti-glare panel had a thin red trim line like the checkered area.
- The pilot's name on the canopy frame was

painted on a red background and not a yellow one.

- There were checkerboard patterns on the wing tips as well, not just on the nose.
- The portion of the spinner behind the propeller was red.
- There were more victory markings on the plane.

The decals for these different markings came from the decal sheet from Fujimi's P-51D kit, which happened to be in my spares box. The quality of these decals was not as good as Superscale's so I used only the Fujimi decals that were absolutely necessary. After I chose the markings, I began painting the model. To reproduce the natural metal surfaces of the aircraft, I decided to use Testor aluminum metalizer, which gives very realistic results but cannot be masked in any way – even low-tack frisket film may lift the paint from the surface. Furthermore, it must be applied directly to the model's surface without the presence of an undercoat of acrylic or enamel paint. Bearing the above in mind, my painting started with the surfaces on the real aircraft that were painted. The natural metal areas were masked off to keep them free of any paint. To cut the mask for the nose, which has to be painted white before the black checkered decal is applied, I photocopied the decal and used it as a pattern. The spinner, wingtips, and the nose were all painted white.

Then I painted the black areas on the rudder and the tailplanes, the black checkers on the wingtips, and half the spinner. The anti-glare panel was next with Testor olive drab and, finally, the red part of the spinner and the anti-glare panel's red

The aircraft's undersurface has quite a few oil and exhaust stains. Maybe it could have been dirtied more.

NORTH AMERICAN'S "DOLL"

The P-51 was created by North American Aviation, following an RAF order for a tactical reconnaissance aircraft.

Powered by a V-1710 Allison engine, it performed very well at low altitudes (under 10,000') and was used by the USAAF in ground attack missions. Under the designations of A-36 Apache and P-51 Mustang, it successfully supported ground forces in Tunisia and Sicily. This might well have been the end of the story if at the same time the allies were not facing a very difficult situation farther north.

It was already obvious that the only way to bring Germany to its knees quickly was to continue bombing the industrial heart of the Third Reich with B-17s and B-24s. This, however, was proving increasingly costly in terms of aircraft destroyed, which by 1943 had reached the unbelievable number of 60 bombers lost per mission. The concept of the "Flying Fortresses" that could defend themselves had proven to be wrong. A fighter escort was essential on all missions. Unfortunately, most of the available fighters lacked the necessary range.

The solution was provided by British trials started a year earlier on the use of the Rolls Royce Merlin engine on the P-51. The results were astonishing. The combination of the Merlin and the superbly designed Mustang wings gave the aircraft the necessary range to escort bombers to the heart of Germany, confront the enemy fighters, and return. The "little buddies," as they became known to the crews of the bombers, were there to stay. The 8th Air Force started equipping its fighter squadrons with P-51s. The aircraft soon made a name for itself, and squadrons competed for its acquisition. The superiority of the aircraft was such that very soon the first "aces" appeared, some of whom scored their five kills in just one day. Their names are well known to fans of military aviation: Don Gentile, Clarence "Bud" Anderson, Leonard "Kit" Carson, Charles "Chuck" Yeager, and many others. One of the most famous aces of the 8th was John Landers, who finished the war as the commander of the 78th Fighter Group in Duxford with 14.5 confirmed kills and 20 more planes destroyed on the ground. He was one of the few pilots who was an ace both in the Pacific (six kills) and Europe. Initially, he had flown the P-40 in the 49th Pursuit Group. Then he went to Europe with the 8th Air Force, where he flew the P-38 and finally the P-51. All of the aircraft he flew were named "Big Beautiful Doll." In 1944 he was promoted to commander of the 357th Fighter Group but was soon transferred to Duxford where he commanded the 78th Fighter Group.

During the war, Landers was assigned more than 10 different aircraft, but most of his victories were made while flying P-51D-20-NA s/n 44-72218 from December 1944 until the end of the war.

John Landers just before one more mission. (U.S. Army photo)

"Big Beautiful Doll" at Duxford in England. (AFM photo)

border.

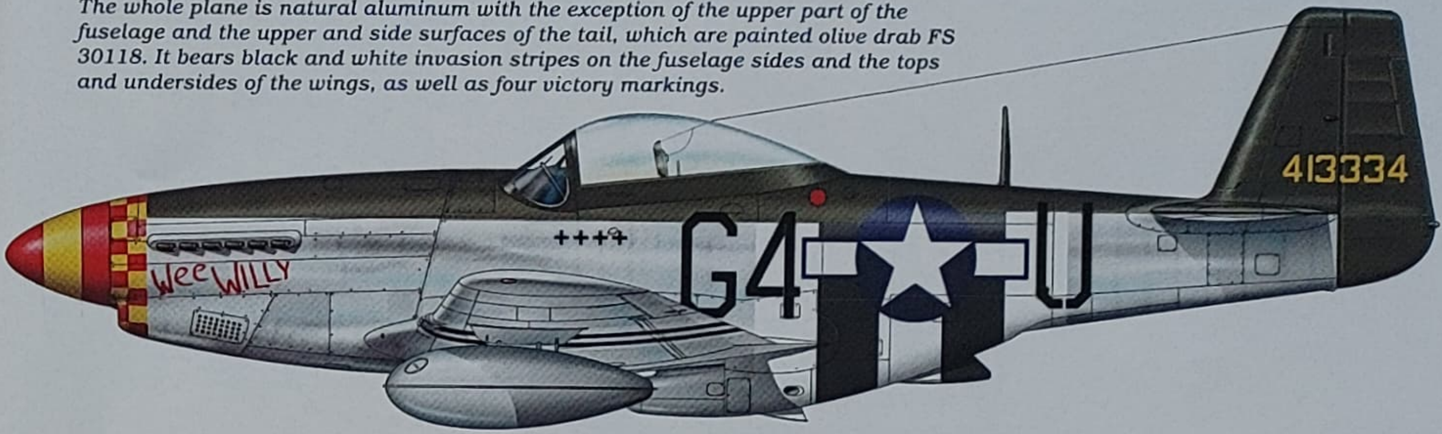
When everything was dry, the painted surfaces were given a coat of Gunze's varnish and, when this was dry, a wash of black and brown artist's oils. All the painted parts were then masked off and the metallic finish applied. When this had dried, it was polished with a wad of cotton and sealed with Testor Metalizer Sealer. This is necessary as it not only allows you to apply a wash over the finish to bring out the panel lines but also to handle the model without the risk of removing the paint.

The decals from Fujimi and Superscale were then applied. The pilot's name, victory markings and the tail code were Fujimi decals, and all the rest came from the Superscale sheet. I used Superscale's decal solution for all the decals, especially for the nose checkerboard, which was the most difficult decal to apply correctly.

As always, some details were left till last. The wheels and the pilot's seat were added, as was the canopy, which had a very small hole drilled through it for the antenna cable. The other end of the cable was then glued to the tail.

After a technically challenging build, the "Big Beautiful Doll" stood there in all her majesty, right in front of my eyes. It was definitely worth all the time and the effort I had spent on it. ■

P-51D-5-NA, 44-13334, "Wee Willy" of 362 FS/357 FG, flown by captain Harry Mace. The whole plane is natural aluminum with the exception of the upper part of the fuselage and the upper and side surfaces of the tail, which are painted olive drab FS 30118. It bears black and white invasion stripes on the fuselage sides and the tops and undersides of the wings, as well as four victory markings.



RAF Mustang Mk.IV, KM232/JAS, flown by Wing Commander J.A. Storrar, leader of the Digby Wing, April 1945. Aluminum overall with olive drab anti-glare panel on front fuselage. Dark blue letters with red outline. "C" type roundel on the wing topside, 100cm diameter; similar roundel under wing was 81cm diameter, with 91.4cm diameter "C1" roundel on fuselage.

P-51D-25-NT, 44-84647, "Mouse Meat" of 12 FBS based in Chinhae, Korea, in July 1952. The huge red-and-white shark's mouth dominates the silver color of the plane. The spinner, wingtips, and tail are yellow. Note the black anti-glare panel is not restricted to the front of the canopy but also extends around it.

P-51D-30-NA, 44-74627, "The Shark of Zambales." Philippine air force Mustangs were employed heavily against the Hukbalahap guerrillas during the 1947 uprising. The natural metal that dominates the plane is covered with impressive multi-colored national and squadron markings. There are no markings on the wings.

TBM-1 Avenger

Blue Vengeance

One of the most famous aircraft of World War II was the Avenger. Although it was not a fighter, it occupied a place of honor among the great aircraft of the era. The 1/48 scale Accurate Miniatures kit can be built into a super-detailed model.

DIONYSIS GARDELIS

TBF-1C Avenger: Accurate Miniatures
Photoetched parts: Eduard, Verlinden
Decals: Yellowhammer Models

Acrylic colors: AeroMaster, Tamiya, Gunze Sangyo
Plasticard & plastic strip: Evergreen

My search for a brightly colored Avenger ended when I saw the "E16," a General Motors-built TBM-1 with a yellow fuselage and wing codes. This Avenger flew off the escort carrier USS *Mission Bay*. It belonged to VC-8, a training squadron. Consequently, it had huge wing codes. The national markings are typical of June to October 1943 type, as they have the bright red surrounding used during that period. At the time, all training was carried out on older aircraft like the Grumman-built TBF-1. The newer and more battle-worthy Avengers, like the TBF/TBM-3, were received shortly before the squadron was classified as a combat unit.

The TBF-1 and TBM-1 were the first production types and differed only slightly from the more numerous TBF-1C and TBM-1C. The main differences were the following:

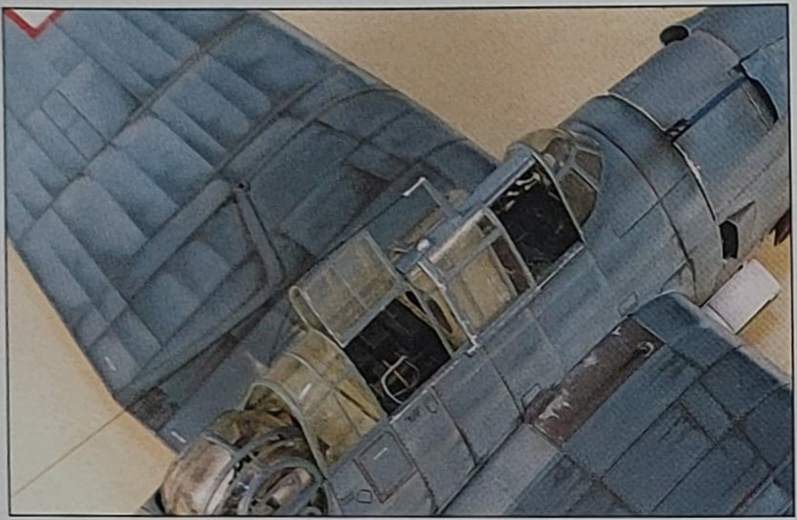
The presence of a .30-cal. nose-mounted machine gun, the absence of armament and related access hatches in the wings, and the position of the fuselage aerial and landing light.

The kit I used was the 1/48 scale TBF-1C by Accurate Miniatures. It was simple enough to construct and required very little work to be turned into a TBM-1, yet the finished model was most satisfactory.

Weathering around the engine was very slight. It was simulated by airbrushing fine black, brown, and gray stains.

Finding a colorful scheme was not easy, but Yellowhammer decals provide an attractive option.

The cockpit interior is excellent even without the extra detail.



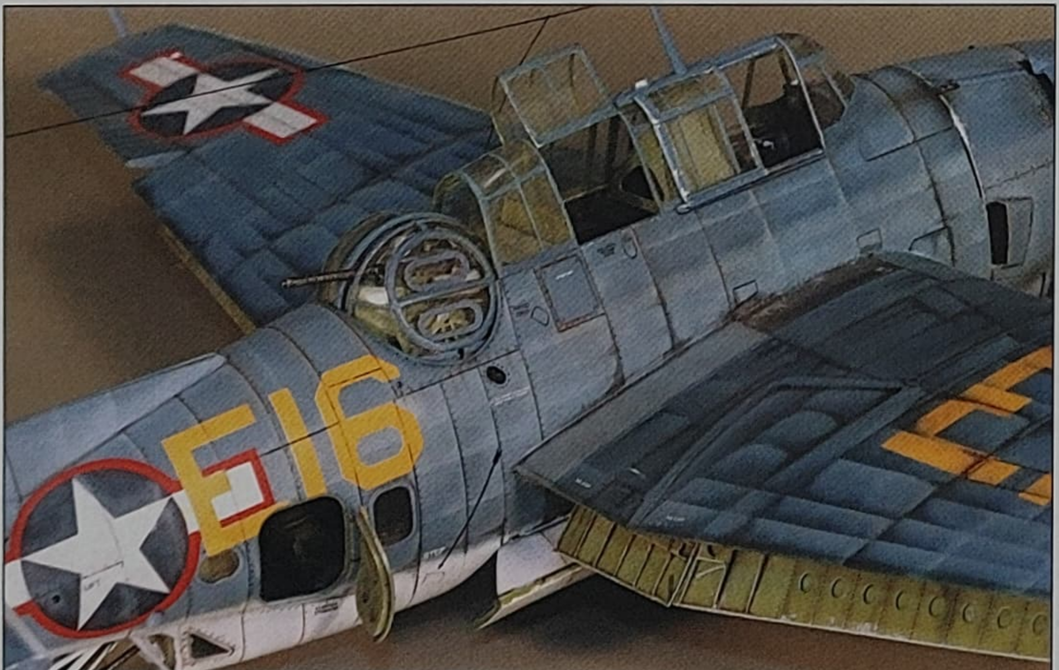
CONSTRUCTION

I started on the inside of the fuselage halves where the airframe was replicated using Evergreen plastic strip. Special attention was paid to the rear fuselage where hatches would be left open. However, very little of all this was eventually visible. Instruments were made from plasticard, and fine copper wire was used to represent the wiring. On the left side of the fuselage, I opened up the ejection port for the inflatable dinghy. The stowage compartment is provided as part of the kit so all that is needed here is the dinghy, which was fashioned from epoxy putty and painted khaki.

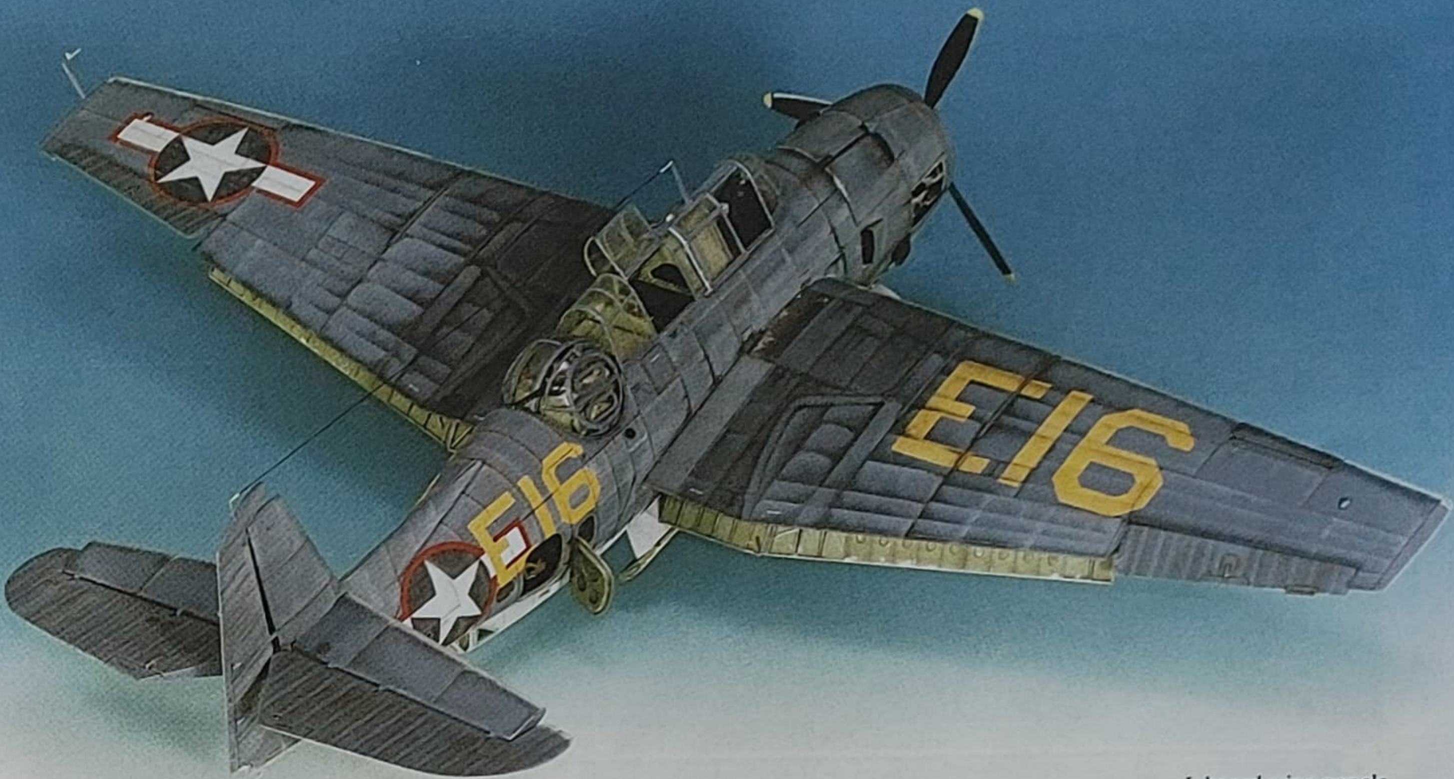
The cockpit was detailed using photoetched parts from Eduard (set No. 48146). As these parts were designed for the old Monogram TBF-1C, which today is probably a collector's item, not all of them can be used with the Accurate Miniatures kit. However, the seat, seat belts, rudder pedals, and many of the sidewall details could all be used. The bomb bay was also detailed with Eduard parts (No. 48144), and wiring was added after the rather heavily molded bomb cradles were removed. Two small hatches were opened up in the bomb bay roof under the engine compartment. These allowed access to the engine without the need to remove its cowling. The bomb bay doors were also improved with photoetched parts. One point worth noting is that Eduard has now released a set of parts (No. 48187) designed specifically for this kit that includes parts for the cockpit, bomb bay, turret, and fuselage interior.

After making sure the turret could be added at a later stage the fuselage halves were cemented together. Take care not to forget any of the bits that

Many details were added to the turret. The port for the inflatable dinghy can also be seen.



The subtle rust marks on the fuselage panel joint lines were simulated using red pastel chalk.



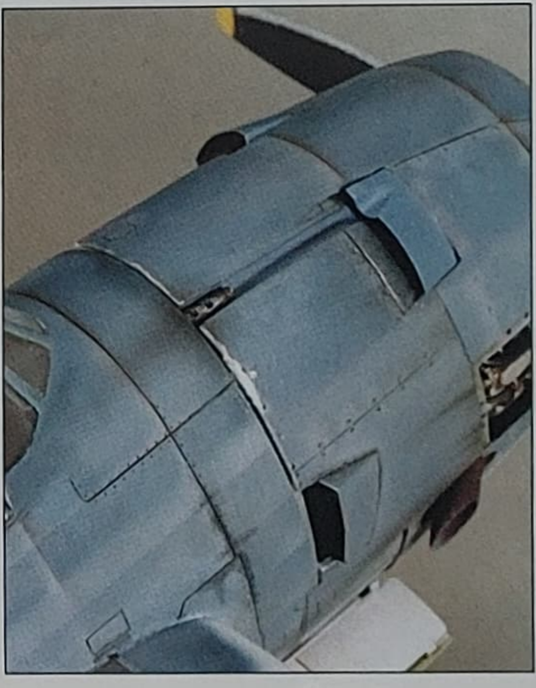
Inboard wing panels are less worn. They are covered by the rest of the wing, which folds up and backward, when the aircraft is parked on the carrier deck.

go in between as I did with the arrester hook.

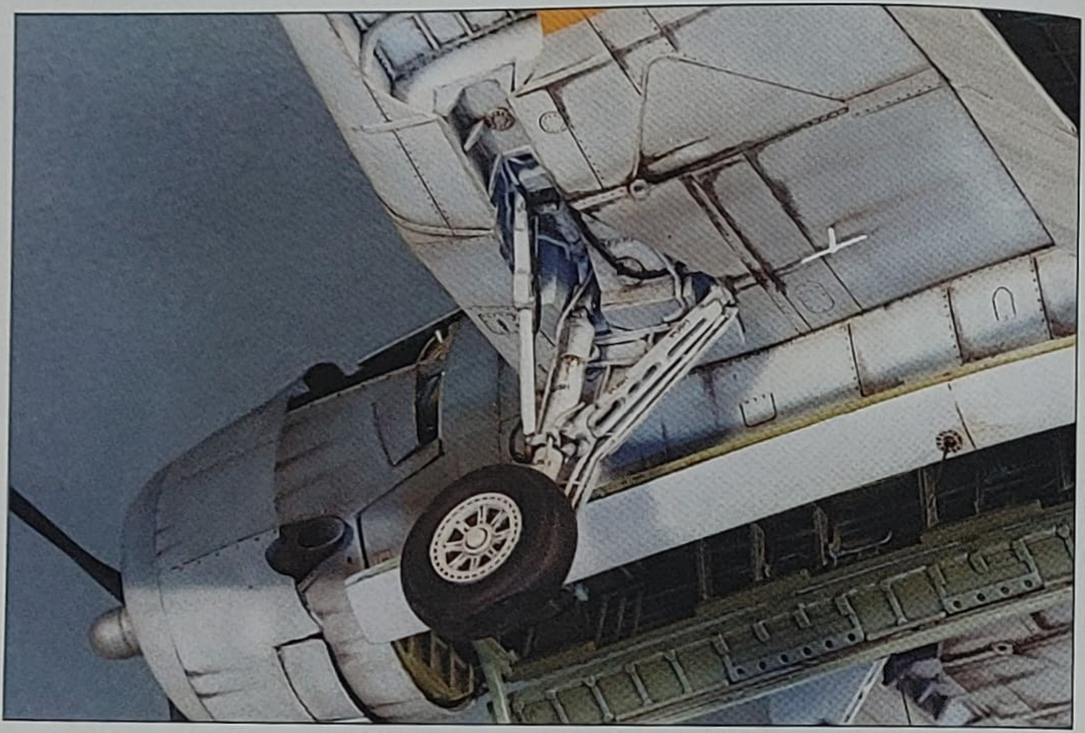
The next step was to close the front of the fuselage with plasticard, this piece representing the fire wall between the engine and the cockpit on the real aircraft. The oil tank is located in the center of the fire wall. The oil tank was shaped out of epoxy putty. Once this was in place it acted as a guide for placing the engine supports, which were made from syringe needles cut to the same length as the kit-supplied parts. Photographs of the real aircraft were a great help in adding various details such as piping, wiring from copper wire, and solder. Everything in the engine compartment was painted AeroMaster chromate green and weathered by spraying diluted Tamiya smoke from a distance.

Work on the wings started by removing the flaps from the lower wing halves. Although the kit-supplied parts are very good and can easily be placed in the lowered position, the Eduard parts are far superior and so they replaced the kit details, which were sanded away. The flaps were

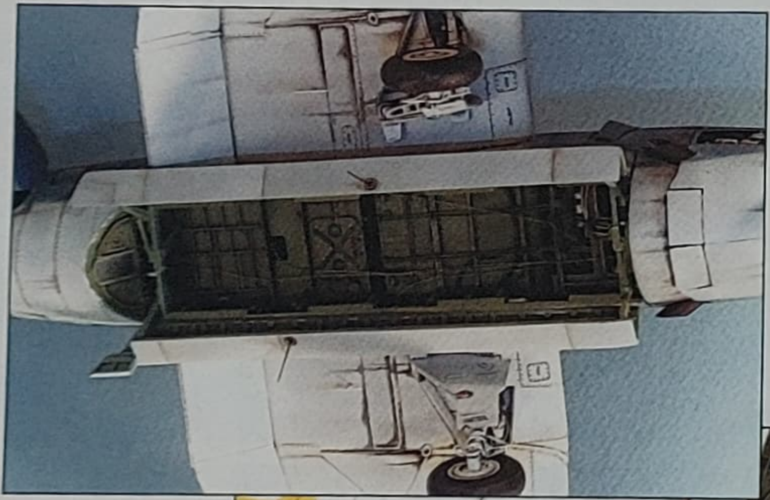
The aluminum propeller blade leading edges were simulated by applying clear decal film painted aluminum.



The cowling panels were thinned but were not faired into the fuselage as this was the way they often appeared on the real aircraft. The alterations made to the panels to accommodate the machine gun can be clearly seen.



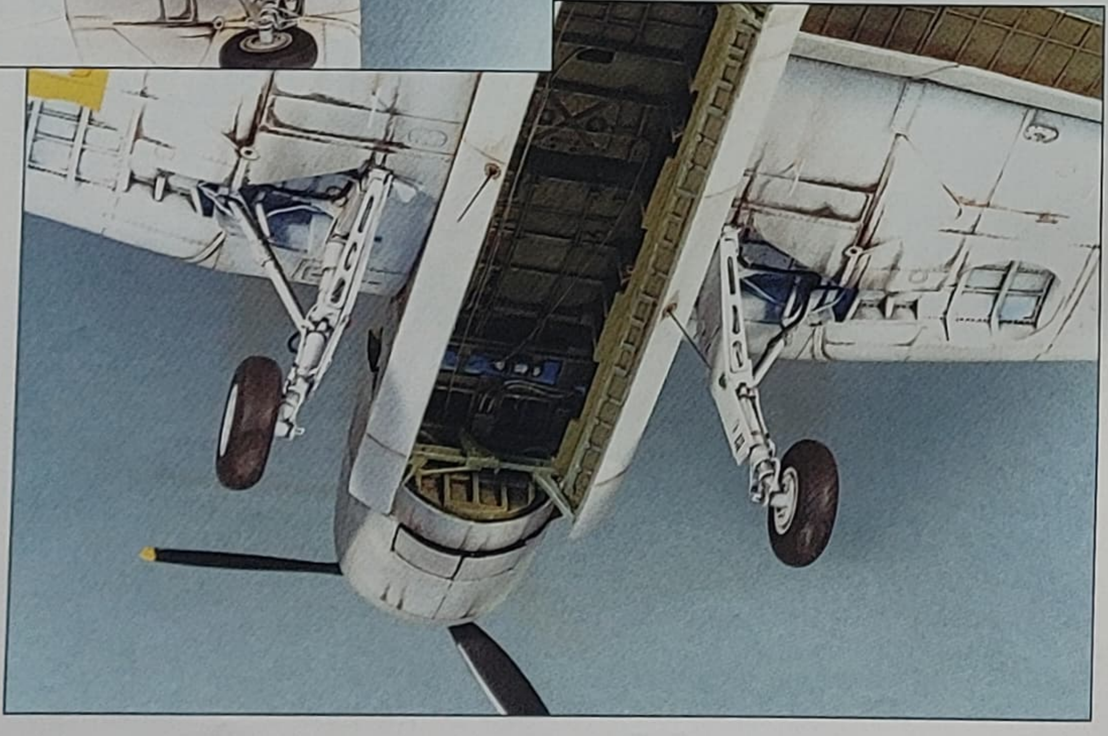
The landing gear struts did not need any extra detailing, contrary to the bomb bay area. Note the T-shaped antenna behind the landing gear.



painted chromate green and weathered using pastel chalks and a very light wash of black enamel. The finished items were attached to the completed model.

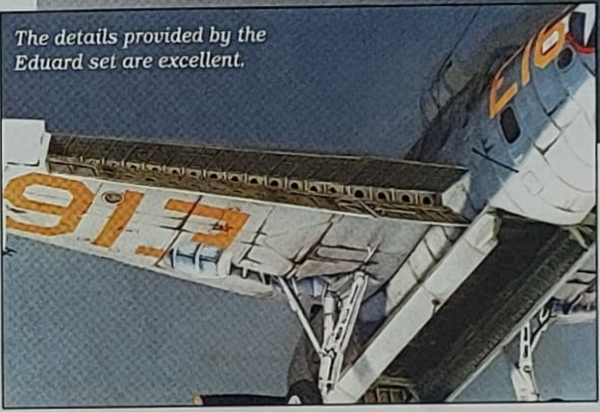
The corresponding upper wing details were also attached to the model and the gap between the two wing halves was filled with plasticard. The ailerons and elevators were fixed in different positions. Painting them in liquid cement to soften the plastic and then striping the surface with a stiff paintbrush to give it a rough look simulated their fabric-covered surface. This should be done very carefully to avoid creating an overscale effect. If

Wiring was added using solder and stretched sprue.



At the bomb bay rear is the window through which the bombardier could aim the bombs. Even with the bomb bay doors closed, a small panel could be opened to allow unrestricted and accurate aiming.

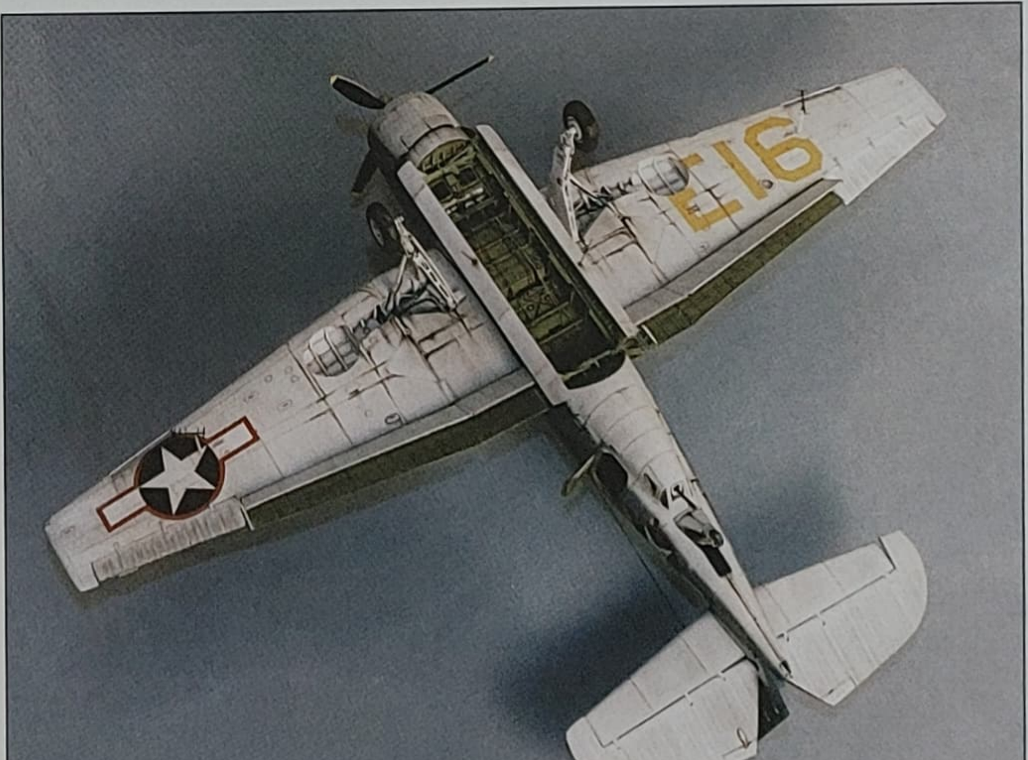
The sight on the machine gun is another small detail that adds to the overall effect.



The details provided by the Eduard set are excellent.

you have never used this technique before, it is a good idea to practice on a piece of scrap plastic before trying it on the model.

The turret turned out to be the hardest part of the project. The parts are very cleverly designed. However, if you decide to add extra detail, you should constantly check that the whole thing fits into the fuselage. The

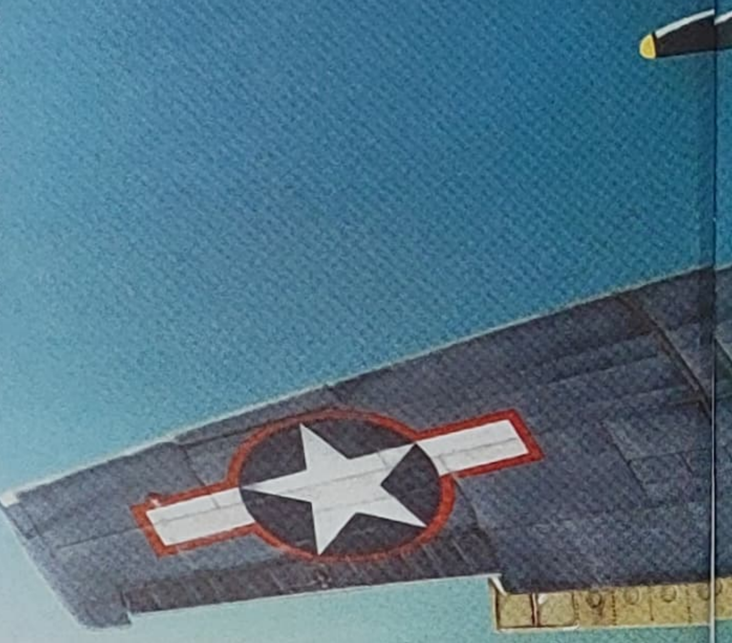


In order to avoid strong contrasts, weathering on the undersurfaces was limited to the wing joint and the area around the landing gear.

kit machine gun was replaced by a resin part from Verlinden and detailed by adding wiring, the sight, trigger, and an ammunition belt. The gunner's seat had the harness added, and the escape hatch was completely removed to allow everything to be seen easily. The turret interior was painted according to the kit's instructions. I masked all the clear parts, taking special care, as they are all curved. The frame was first sprayed interior green, and then the whole turret was placed in the fuselage to be painted along with it.

For the engine I used Verlinden's resin kit of the R-2600, which also contains vinyl tubing for the fuel lines. Although the detailing is excellent, the engine is slightly larger; so to fit the fuselage, the cylinders have to be shortened by 1mm. This is best done before these parts are removed from their runner. The engine was further detailed by replacing the push rods with Evergreen plastic rod. Oil lines were made with very fine solder, and the wiring with fine copper wire. Epoxy putty was used to fashion the part of the carburetor intake that passes over the engine as well as the exhaust ring and the oil coolers beneath the engine.

The engine cylinders were sprayed aluminum and when dry, a very light coat of



TBF-1s used to train carrier pilots and aircrew often had an even more weathered look.

On similar aircraft there were usually many areas of bare metal where the paint had been chipped and worn by the crew's movements. On Avengers, any such damage was repainted as soon as possible to prevent corrosion.

Tamiya smoke was added. The pushrods and propeller pitch mechanism were painted gloss black, and various smaller details were picked out in silver, while all the engine wiring was finished in a 2:1 mixture of black and dark red. The whole engine was then given a very light spray of brown to give it a used look, which was followed by washes of black and oil to bring out the detail. To make the detail more visible, certain cowling panels were left off.

The undercarriage legs were added and detailed with wiring from fine solder. The kit comes with two sets of tires with different patterned treads. To add interest, the model received one of each. This was quite common on carrier aircraft as spares were always in short supply. The tires were painted black with a bit of dark red added to simulate wear.

The final task was the addition of the cockpit transparencies, which were faired into the fuselage with putty. The central canopy over the avionics

bay was replaced with two vacu-formed parts, and the aerial support was reset to its correct angle.

PAINTING

The usual three-color scheme consisted of non-specular sea blue (FS 35042), intermediate blue (FS 35164), and flat white (FS 37875). I used Gunze Sangyo paints H54, H56, and H11 respectively.

Painting commenced on the undersurfaces with a light gray coat to act as a primer, over which the white was applied accentuating all panel lines and leading edges. As carrier aircraft are subjected to a very harsh environment, their color schemes fade and weather to such an extent that the colors are often unrecognizable from what they originally were. To reproduce this effect, I made three different mixes of each of the two blues by adding different amounts of white to the basic color. Mixture A was 5 parts blue to 1 part white, mixture B 5:2, and mixture C 5:3. Mix B of both blues was used first for the basic color scheme. Mix A was used to paint all leading edges and areas where heavy wear necessitated constant touching up of the paint so as not to leave bare metal subjected to the elements. Finally, mix C was used for the areas most exposed to sunlight. When everything was dry the whole model was gently rubbed down with a very soft cloth to remove all traces of dust and to give the finish a smooth sheen. The model was then sprayed with a very light coat of gloss acrylic varnish. The decals are from the Yellowhammer Models set and are for VT-8 and VC-8 aircraft. The warning stencils came from the kit decal sheet.

After applying the decals, paint chipping was simulated with aluminum in places where the crew would tread and on the edges of panels, which were regularly removed. Finally, the completed model was sprayed with AeroMaster matte varnish, slightly thinned with Tamiya thinner. This is an excellent medium for sealing the completed model. Using pastel chalks, light weathering was applied to the wings and fuselage. The model was completed by adding all small parts that had been left off up to this point.

TBF/TBM AVENGER: THE U.S. NAVY'S VENGEANCE

24737 on the deck of the USS Mission Bay. (USN photo/David Lucabaugh)

The XTBF-1 was Grumman's contender to the U.S. Navy's search for a replacement for the aging TBD-1 Devastator. Its rival was the Chance Vought XTBU-1 Sea Wolf, which, although equal in terms of performance, was considerably larger, making it unsuitable for carrier operations.

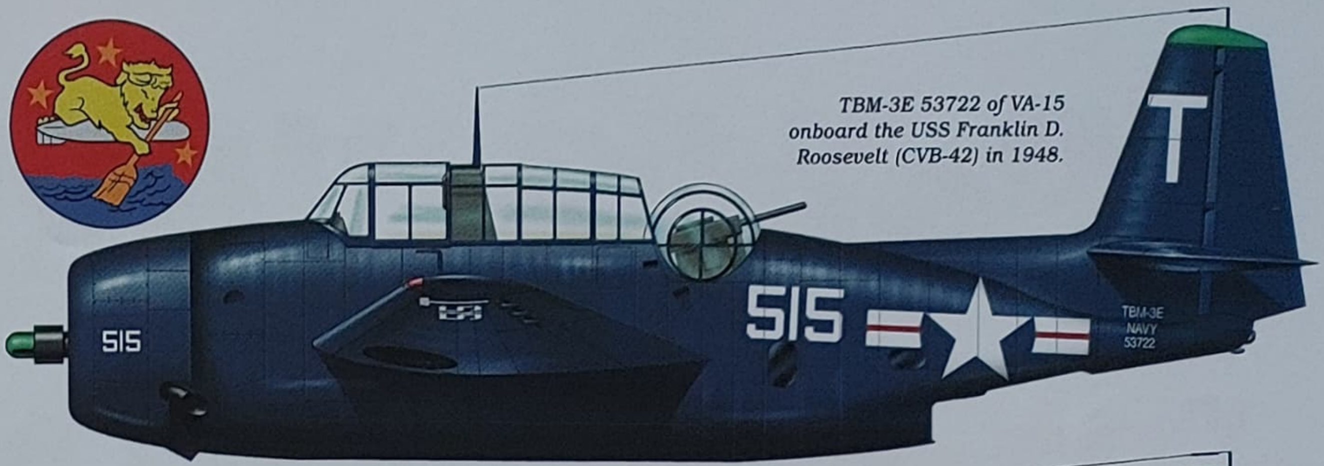
The Navy's specifications called for a three-man aircraft with an internal bomb bay that could carry a torpedo or a 2000 lb. bomb load, self-sealing fuel tanks, heavy armor protection for the crew, and turret-mounted armament for self-defense. After seeing the wood mock-up of the XTBF-1, the Navy ordered 286 aircraft in November 1940. The prototype's maiden flight was in August of 1941, and following this, very few modifications were made to the aircraft. The second prototype, which first flew on December 15th, 1941, was identical to the production aircraft.

The aircraft was powered by a 1700 hp Wright R-2600-8, which gave it a top speed of 271 mph at 12,000 ft., and a range of 1215 miles. The turret was innovatively designed. For the first time electric motors were used for all turret movements instead of the much slower hydraulics.

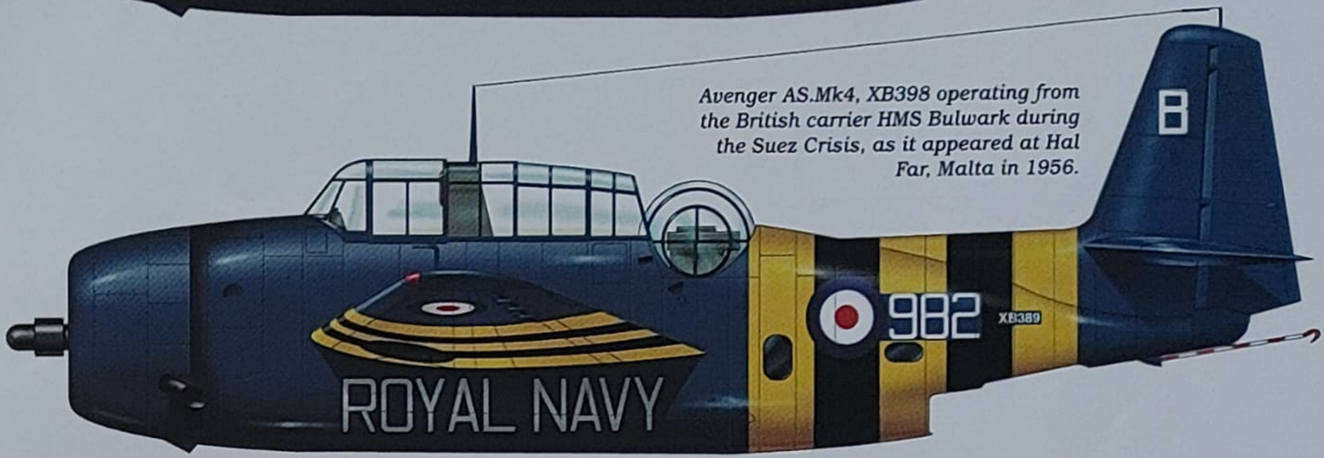
The first production TBF-1s had dual controls for safety reasons, but after the fiftieth production aircraft, the second set of controls was removed. The two fuselage side windows were replaced by a single larger one that was level with the wing's trailing edge. This greatly improved the crew's field of vision. A year after its entry into service, the Avenger was equipped with a radar. The ASB systems (Air to Surface type B radar) characteristic Yagi antennas were mounted under the wings, while all the electronic equipment was placed in the navigator/radio operator position.

The Avengers' first mission was on June 4th 1942, which had an unfortunate ending. On June 1st Avengers landed on Midway island to reinforce its defense. On June 4th the Japanese fleet was spotted by a Catalina, and soon six torpedo-armed Avengers were airborne. The unescorted torpedo-bombers proved to be easy targets for the more agile Japanese Zeros. Of the six Avengers launched only one, flown by A. K. Earnest, managed to return. He made an emergency landing on the island's beach, his Avenger riddled with Japanese bullets.

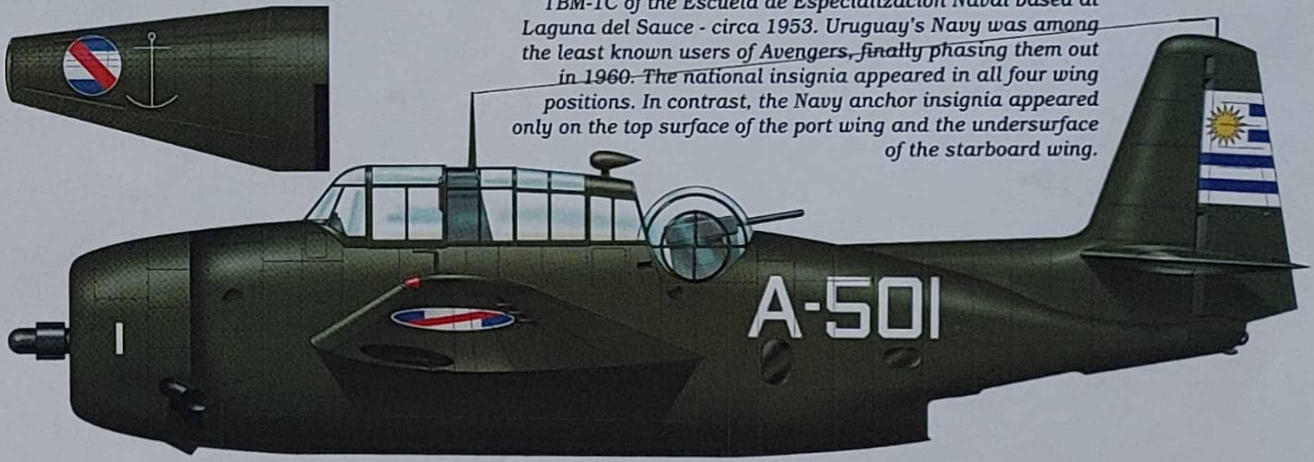
Grumman soon found its manufacturing capacity stretched to the limit. It had to deal with ever-increasing production orders for the new Avenger, while maintaining production of the F4F-4 Wildcat. Another manufacturer had to be brought in, and this was none other than General Motors (GM). The Avengers that were manufactured by GM were identical to the Grumman-produced ones, and only their serial numbers gave away their parentage. These aircraft were designated with a "TBM." When production ended, GM had manufactured 7546 Avengers, 77% of the total. Grumman had produced 2291 aircraft.



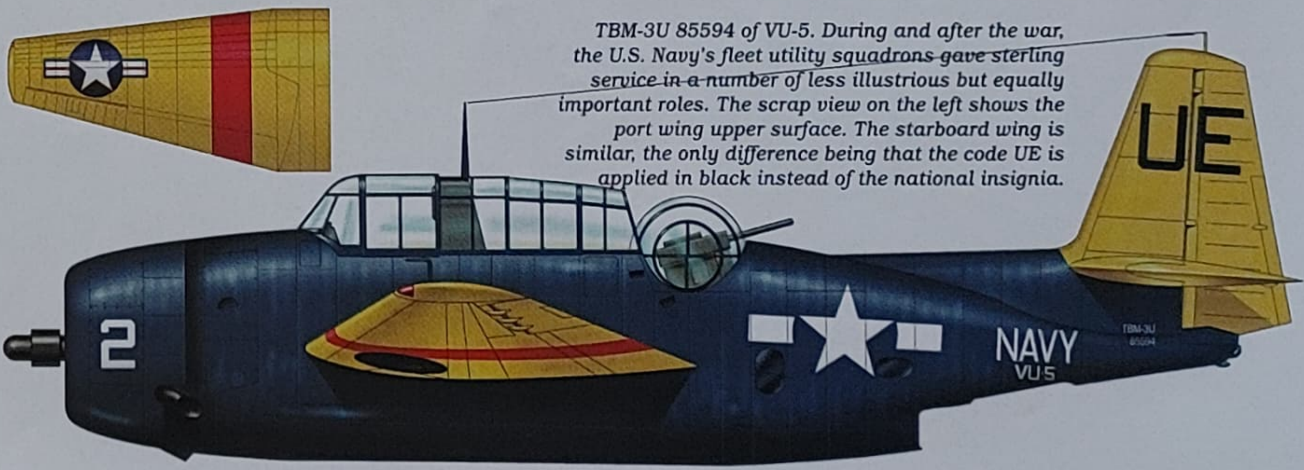
TBM-3E 53722 of VA-15 onboard the USS Franklin D. Roosevelt (CVB-42) in 1948.



Avenger AS.Mk4, XB398 operating from the British carrier HMS Bulwark during the Suez Crisis, as it appeared at Hal Far, Malta in 1956.



TBM-1C of the Escuela de Especializacion Naval based at Laguna del Sauce - circa 1953. Uruguay's Navy was among the least known users of Avengers, finally phasing them out in 1960. The national insignia appeared in all four wing positions. In contrast, the Navy anchor insignia appeared only on the top surface of the port wing and the undersurface of the starboard wing.

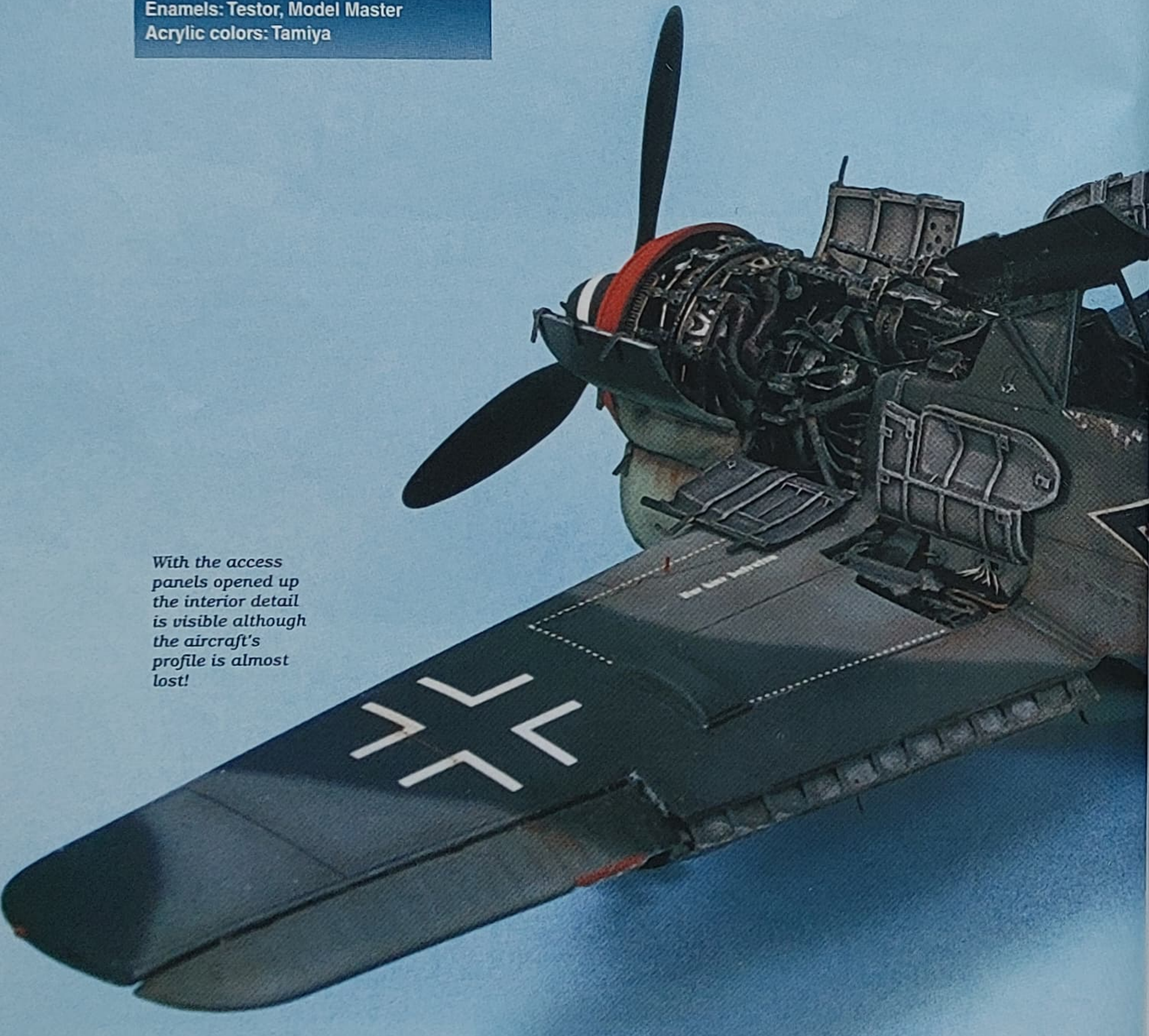


TBM-3U 85594 of VU-5. During and after the war, the U.S. Navy's fleet utility squadrons gave sterling service in a number of less illustrious but equally important roles. The scrap view on the left shows the port wing upper surface. The starboard wing is similar, the only difference being that the code UE is applied in black instead of the national insignia.

Focke Wulf

Focke Wulf Fw 190F-8: Tamiya 1/48
Detail Sets: Verlinden,
Cavalier Models Production,
Paragon
Photo-etched parts: Eduard

Enamels: Testor, Model Master
Acrylic colors: Tamiya



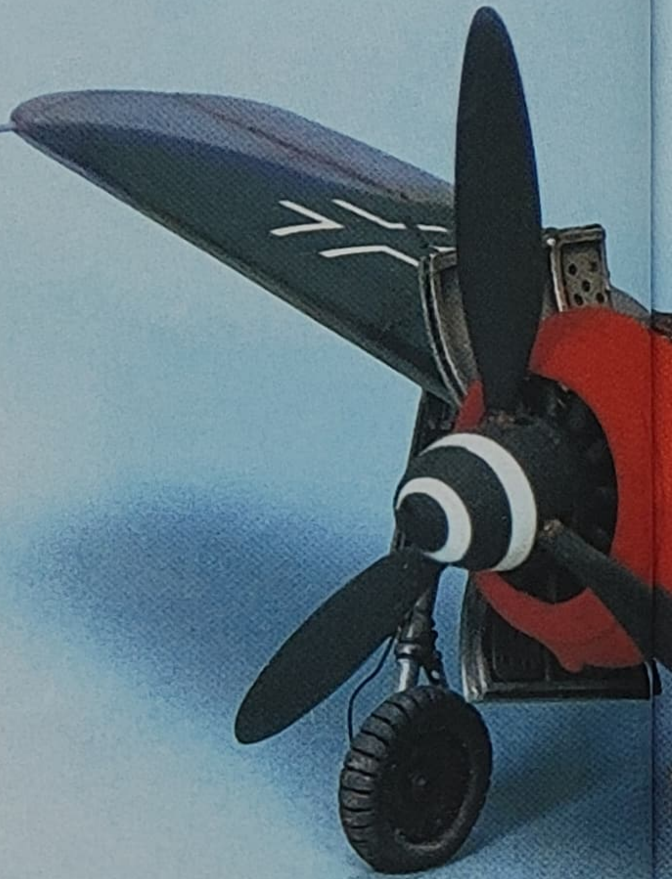
With the access panels opened up the interior detail is visible although the aircraft's profile is almost lost!

Fw 190F-8

A Fearsome Adversary

The Focke Wulf Fw 190 was probably the most robust of all the German fighters in WWII and is a very attractive aircraft to reproduce in the form of a highly detailed model.

CHRIS MANGION
PHOTOGRAPHS: MARIO COCKER

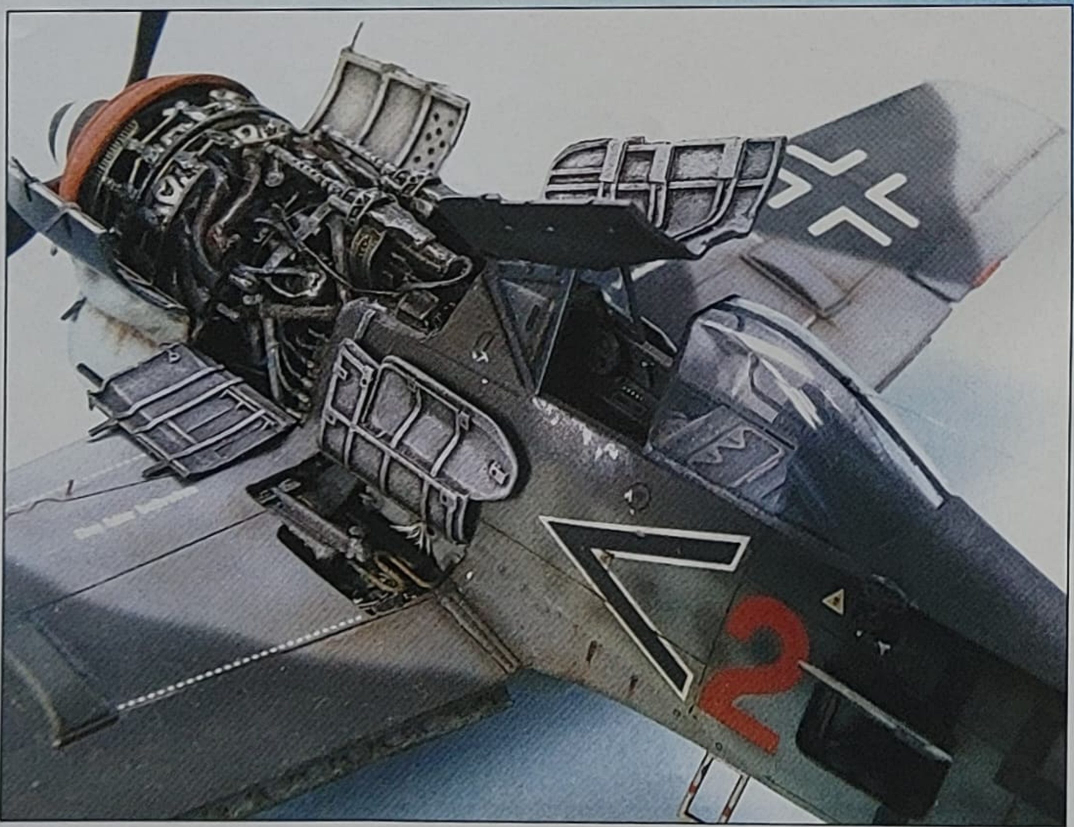


My love of German fighter-bombers made the temptation of building a Focke Wulf Fw 190F-8 absolutely irresistible. The Fw 190 is quite possibly the most robust of all the German fighters that saw active service in WWII. I chose to build Tamiya's 1/48 scale Focke Wulf kit, which is a real gem. However, this time I wanted to go into more detail than just building a model straight from the box. I decided to open up the engine bay and use as many detail sets as possible for this kit.

CONSTRUCTION

The building of the model is straightforward as it is very much up to usual Tamiya standards. Problems only begin when it comes to the fitting of the resin detail sets. The kit parts for the cockpit were kept and some minor details scratchbuilt. The seat was taken from the Verlinden detail set. When complete, the cockpit was painted in RLM 66.

This Verlinden set is well done and was specifically designed for this model. However, I did not like the detail supplied for the engine bay because not all the details present in this area were reproduced in full.

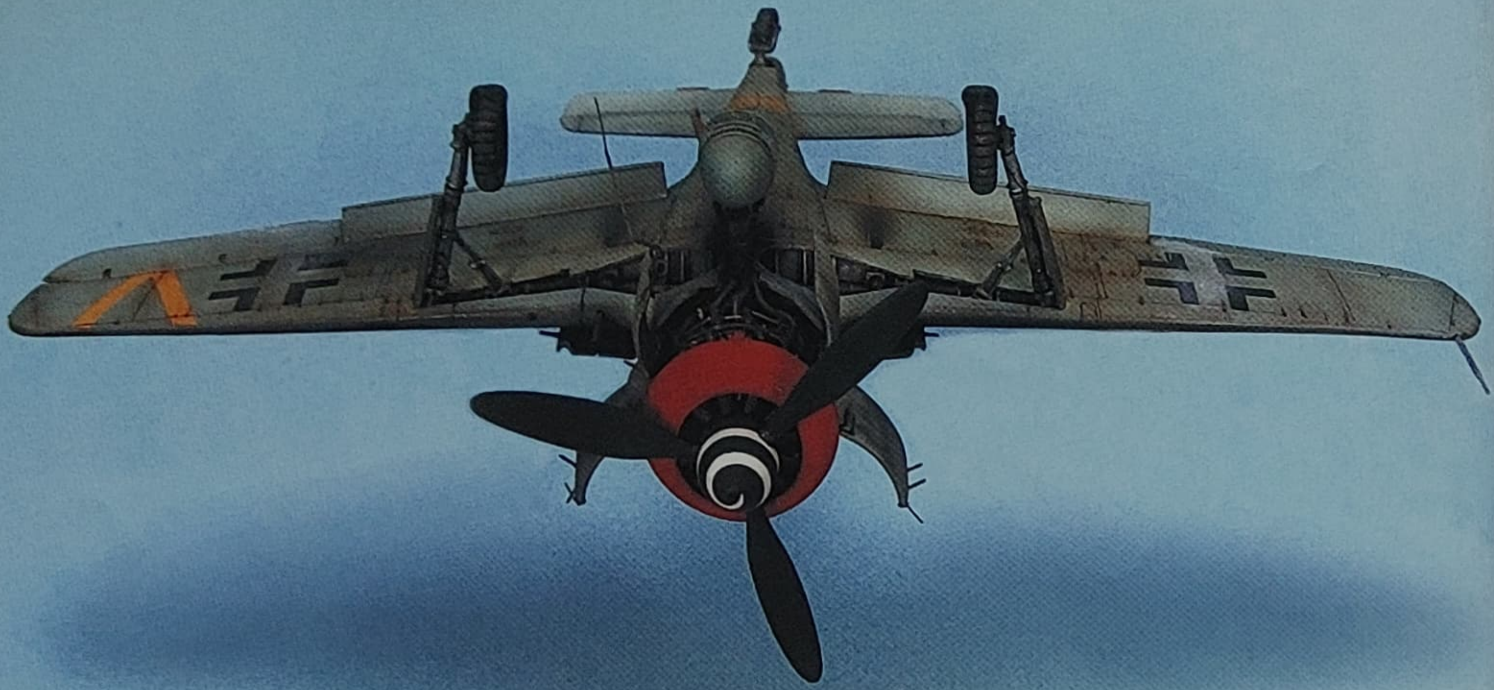


The engine bay and wing root close-up: Note how the engine's top panel rests on the wind-screen.

This is not the result of an internal explosion! Note the position of the landing gear, which is typical of the Fw 190.

I opted for the Cavalier set for the engine bay, which is a model in itself. Upon opening the box, one is confronted with a veritable Pandora's Box of intricate parts. One hundred and sixty five resin parts to be precise, that go together to complete the engine. I began the operation by cutting the model's engine covers and cowling and using the upper engine cowling from the Cavalier engine detail set instead. The lower engine cowl was scratchbuilt using plastic card. Construction and detailing of the resin engine is not that complicated. With the help of references and some patience the result can be a wonderfully detailed model of the aircraft's engine. The completed item was painted with Testor Metalizer gun metal. After drying it was given a wash of artist's oils consisting of a mixture of burnt umber, black, and turpentine. After weathering the engine was dry-brushed first with Testor steel, then aluminum and to highlight it, some parts were picked out with silver. The major operation was placing the engine on its mounts in the model. Everything had to fit precisely!

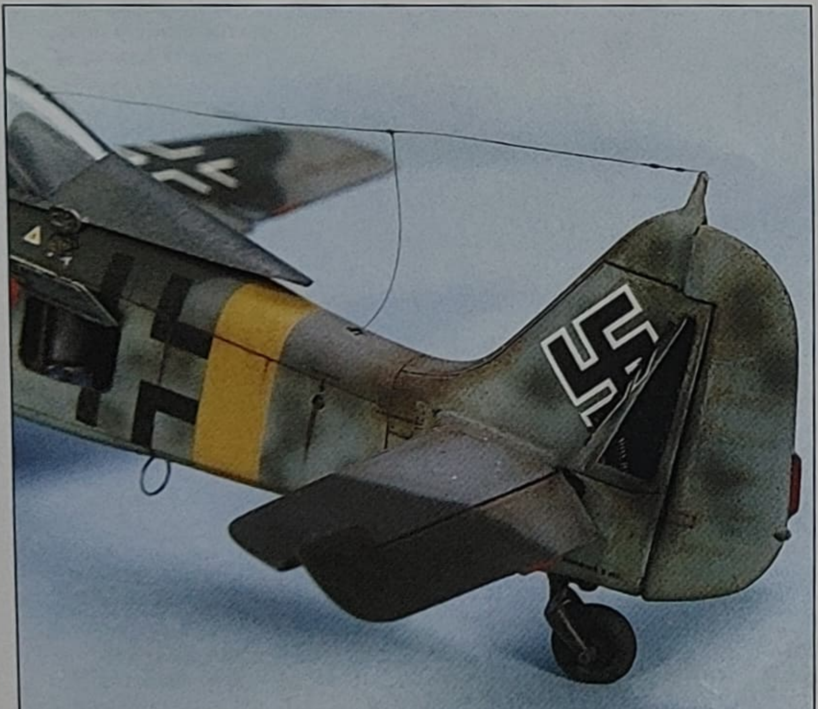
The radio compartment was scratchbuilt using only the door from the Verlinden set. The interior color is aluminum, washed with black and dry-brushed with silver. The oxygen bottles were painted blue and the radios black. The tailwheel compartment came from the Verlinden set, with the addition of a scratchbuilt spring. The wing flaps also came from the Verlinden set. The ailerons and rudder were cut from the kit's tailplanes and fin respectively and were then re-cemented in different positions. The wheel wells



The aircraft's undersurfaces are just as weathered as the top. Note the stains behind the shell ejection chutes and the flattened and bulged tires.

The tail control surfaces were all repositioned. Note the angle of the tail wheel, which must follow the rudder.

came from the Cavalier set and were quite detailed. For the undercarriage, I chose to keep the kit's parts but replaced the wheels with Paragon's bulged tires to give the finished model the effect of weight. The wing root gun bays and machine guns came from the Verlinden detail set.



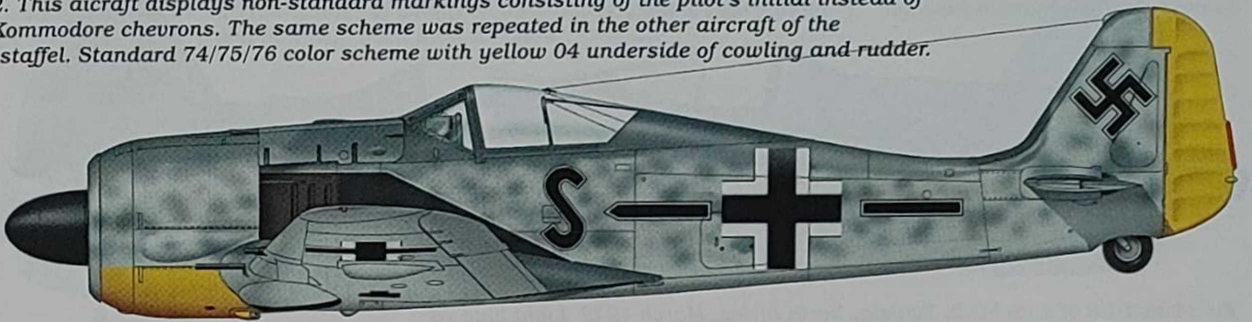
PAINTING

I decided to choose the scheme used on the aircraft of 1/SG2 in Hungary, in early 1945 from the kit's decal sheet except for the winter camouflage (with stripes applied over the camouflage scheme).

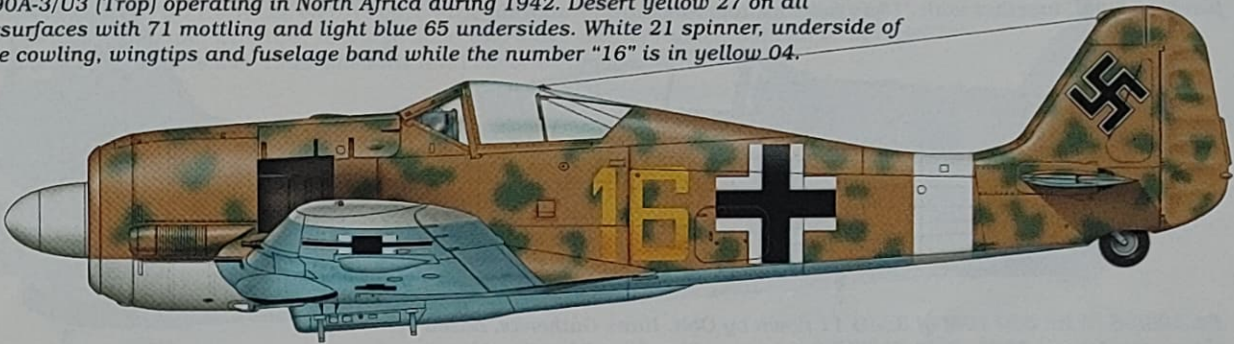
Painting started with a camouflage scheme of gray green RLM 74/gray violet 75 on the upper surfaces and light blue RLM 76 on the undersurfaces. The only headache was convincingly achieving the mottled effect on the fuselage and weathering. Keeping the airbrush pressure low and with patience it is possible to achieve a good result; so some trial runs on a piece of sheet styrene are highly recommended before applying paint to the model. The spinner was painted black green RLM 91 and the spiral was the model decal applied with the help of decal setting solution.

The model was given four coats of clear gloss before applying the decals. After they were applied another four coats followed and finally wet and dry sandpaper was used to rub down and eliminate the various thicknesses that had been produced in the painting process. The model was then weathered with washes of burnt umber and by dry-brushing with lighter shades of the base coat. Finally it was given a matte finish. ■

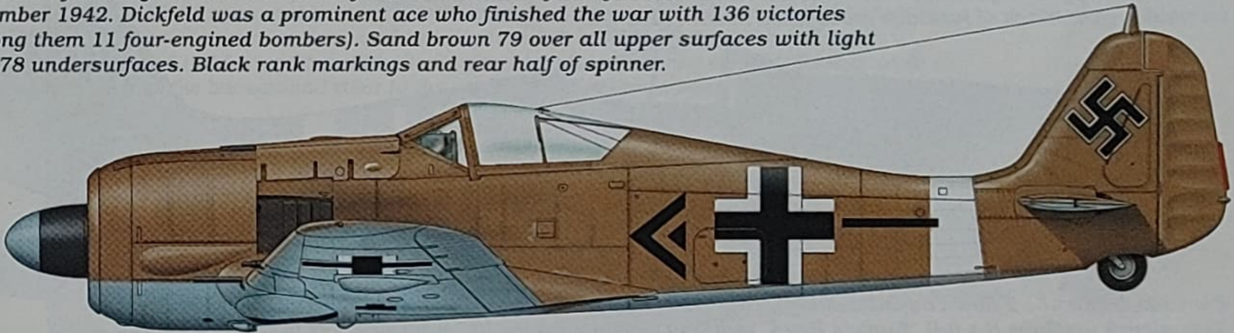
Fw 190A-3 flown by JG 26's Kommandeur, Maj. Gerhard Schöpfel, Coquelles - France, summer 1942. This aicraft displays non-standard markings consisting of the pilot's initial instead of the Kommodore chevrons. The same scheme was repeated in the other aircraft of the Stabstaffel. Standard 74/75/76 color scheme with yellow 04 underside of cowling and rudder.



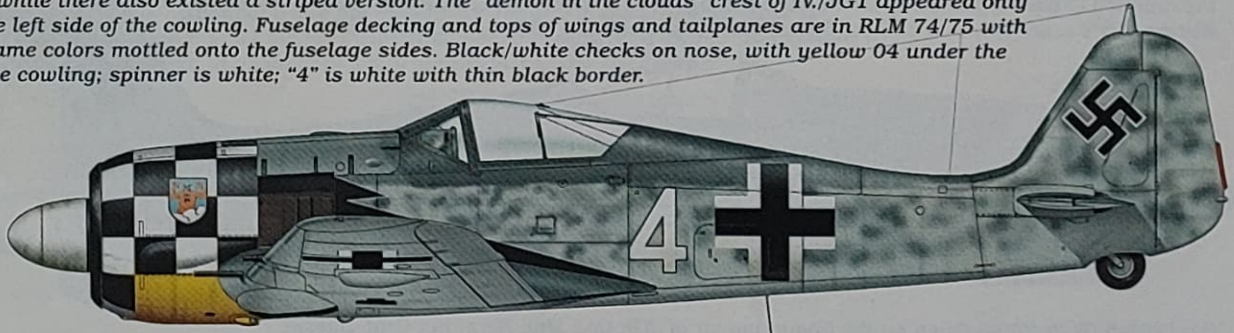
Fw 190A-3/U3 (Trop) operating in North Africa during 1942. Desert yellow 27 on all uppersurfaces with 71 mottling and light blue 65 undersides. White 21 spinner, underside of engine cowling, wingtips and fuselage band while the number "16" is in yellow 04.



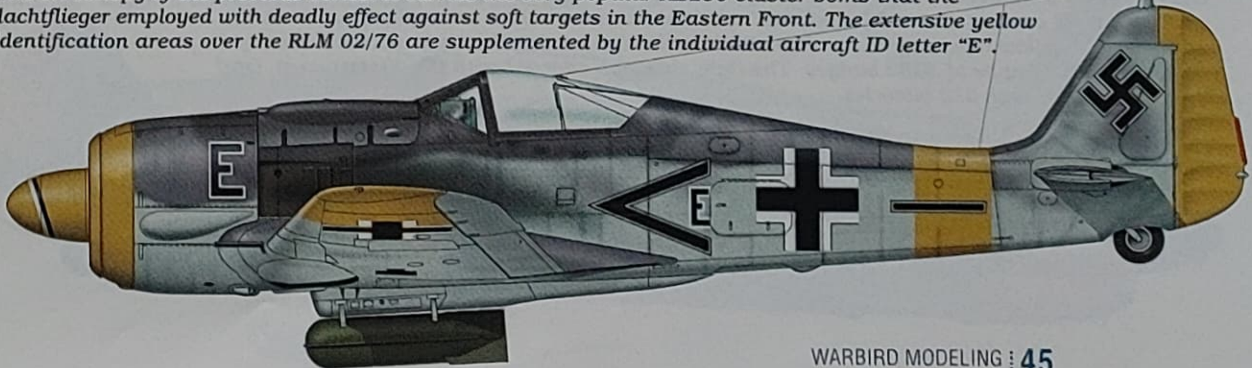
Fw 190A-4 flown by the Kommandeur of II./JG2 Oblt. Adolf Dickfeld Kairouan - Tunisia, December 1942. Dickfeld was a prominent ace who finished the war with 136 victories (among them 11 four-engined bombers). Sand brown 79 over all upper surfaces with light blue 78 undersurfaces. Black rank markings and rear half of spinner.



Fw 190A-4 of 10./JG1. The checkerboard nose was a quick identification method for the aircraft of the unit, while there also existed a striped version. The "demon in the clouds" crest of IV./JG1 appeared only on the left side of the cowling. Fuselage decking and tops of wings and tailplanes are in RLM 74/75 with the same colors mottled onto the fuselage sides. Black/white checks on nose, with yellow 04 under the engine cowling; spinner is white; "4" is white with thin black border.

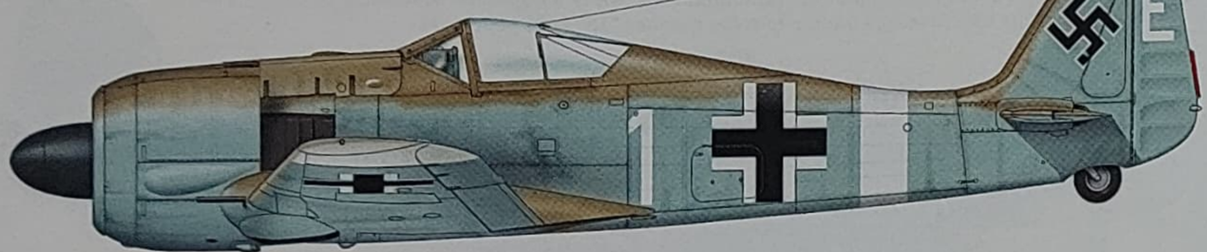


Fw 190F-8 of Stab II./SG4, Russia, summer 1944. This is an early production aircraft equipped with the non-blown canopy of the previous series. It carries the very popular AB250 cluster bomb that the Schlachtflieger employed with deadly effect against soft targets in the Eastern Front. The extensive yellow 27 identification areas over the RLM 02/76 are supplemented by the individual aircraft ID letter "E".

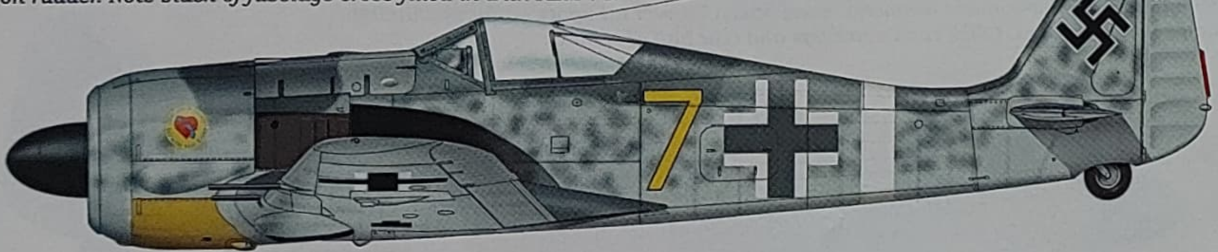


Fw 190A-4/U1, unidentified unit (probably an autonomous Gruppe), operating in France in summer, 1943. Standard RLM 74/75/76 scheme with a dense squiggle mottled fuselage. "7" on fuselage is red 23.

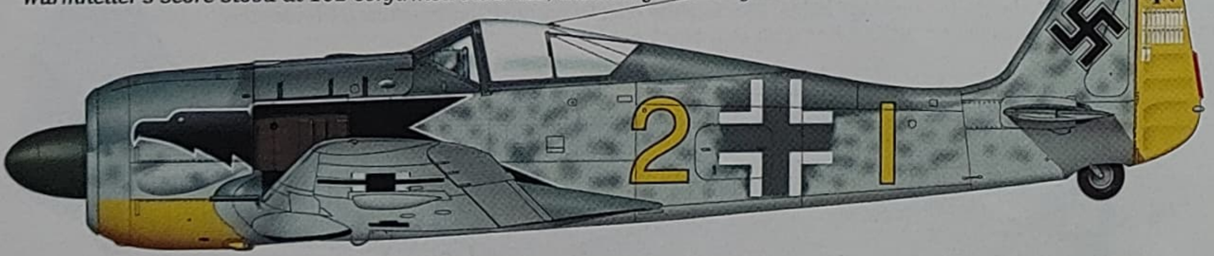
Fw 190A-4/U8 of 1./SchG.2, Tunisia, North Africa, March 1943. Light blue 78 with sand brown 79 uppersurfaces. White 21 undersides to wingtips and rear fuselage band, together with "1" on fuselage and unusual "E" on rudder.



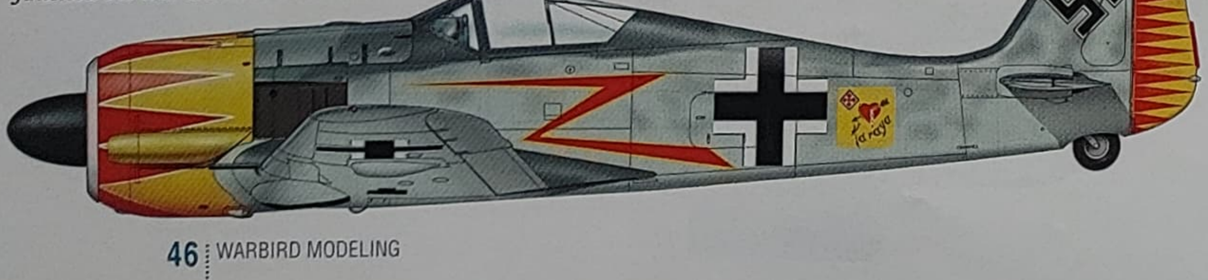
Fw 190A-6 (W.Nr. 530 106) of 3./JG 11 flown by Oblt. Hans Güthenke, based in Germany, August 1943. RLM 74/75/76 scheme with yellow 04 underside of cowling and white rear fuselage band. W.Nr in black on top of fin and two white kill marks on rudder. Note black of fuselage cross filled in with RLM 74.



Fw 190A-5 of 9./JG 2 flown by Oblt. Josepf "Sepp" Wurmheller, Vannes - France, summer 1943. This aicraft displays the full "Eagle's Head" marking widely used by JG2 aircraft of the period in a variety of forms. Standard RLM 74/75/76 scheme with yellow 04 underside of engine cowling and rudder; fuselage codes are also in yellow, with a black outline. Markings on rudder consist of the Knight's Cross he gained upon his 60th victory, plus a further 20 kills. By the time of his death Wurmheller's score stood at 102 confirmed victories, including 13 heavy bombers.



Fw 190A-5 (W.Nr 2594) flown by the Kommandeur of JGr. Ost, Maj. Hermann Graf, Bussac - France, 1943. A unique machine, Graf's Würger sports not only very elaborate markings but also a modified engine with a two-stage supercharger. The hand-made special air intakes on the cowling sides were needed to provide enough cooling for this installation. RLM 74/75/76 scheme with yellow 04 cowling and rudder adorned with red chevrons, which are outlined white on the cowling. Red/yellow lightning on fuselage. Emblem behind fuselage cross is a combination of 9. Staffel and III. Gruppe of JG52 badges. The right side was adorned with the JGr.Ost crest. Graf finished the war with 212 victories.

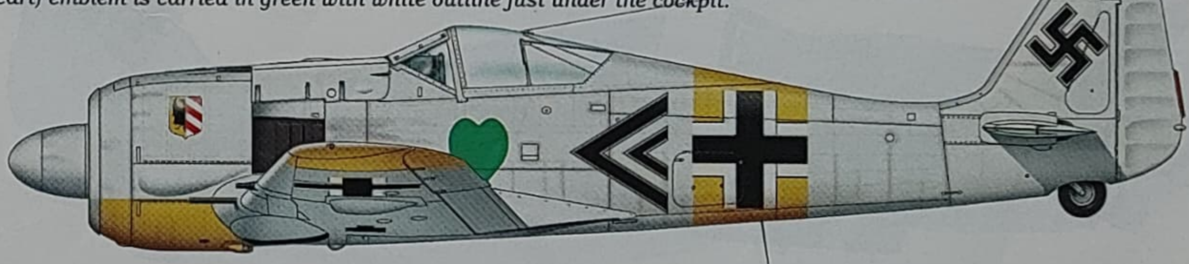


Fw 190A-5 of I/JG.51 "Mölders" operating in Russia during spring of 1943. Unusual splinter scheme of RLM 70/71 on upper surfaces with 76 undersides. Yellow 04 fuselage band, bottom of rudder and undersides of wingtips. Note black spinner with white spiral ending in a sharp end half way back from its point.

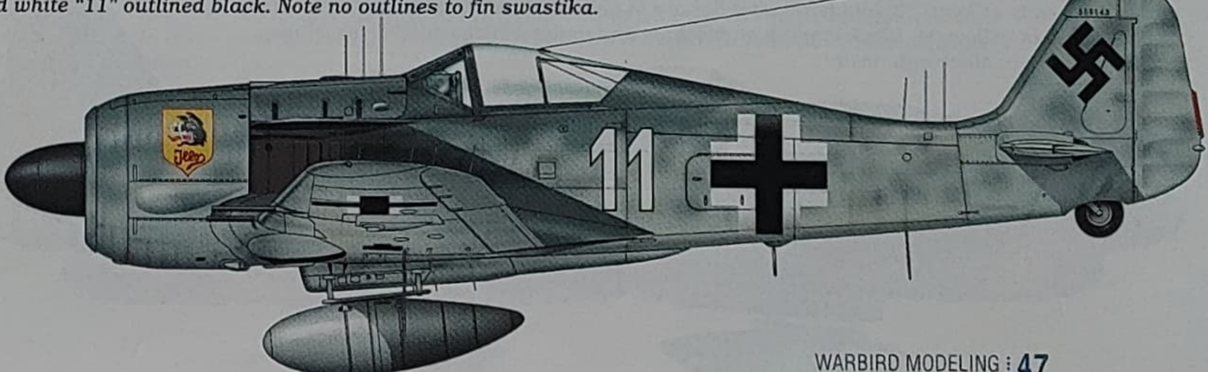
Fw 190A-5, flown by Lt. Robert "Bazi" Weiss during his service with 3./JG 54 on the Russian Front in June 1943. RLM 70/71 scheme on all upper surfaces and RLM 76 undersides. Yellow 04 underside of cowling and wingtips, fuselage band and lower part of rudder, individual number "8". Weiss was killed in December 1944 when his total victories amounted to 121.

Fw 190A-4 flown by the Kommandeur of I./JG54, Hptm. Hans Philip, Krasnogvardeisk - Russia, winter 1943. RLM 70/71 upper scheme with mottles in the same colors, plus a brighter green (possibly RLM 25) on the rear fuselage and tail. Undersides in RLM 76. Gelb 04 underside of cowling, wingtips and rudder together with the fuselage band. Upper wing and fuselage crosses in white only. Note that the background color to the eagle's head in the emblem is actually silver 01.

Fw 190A-4 of I/JG 54, Russia, winter 1943. The top surfaces of this aircraft are overpainted in white distemper while the undersides remain in the standard RLM 76. Yellow 04 fuselage band, undersides of wing tips and cowling. JG 54's Grünherz (green heart) emblem is carried in green with white outline just under the cockpit.

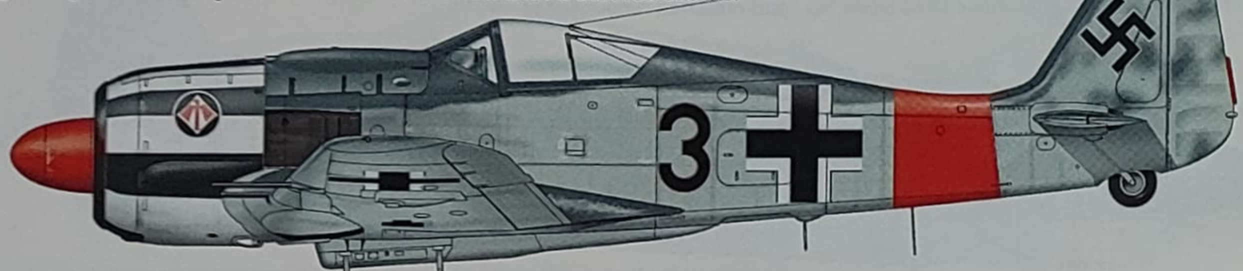


Fw 190A-6/R11, W.Nr. 550 of 1./NJGr 10 flown by Oblt. Fritz Krause equipped with FuG218 Neptun J3 A1 radar. RLM 74/75/76 camouflage with black spinner and white "11" outlined black. Note no outlines to fin swastika.

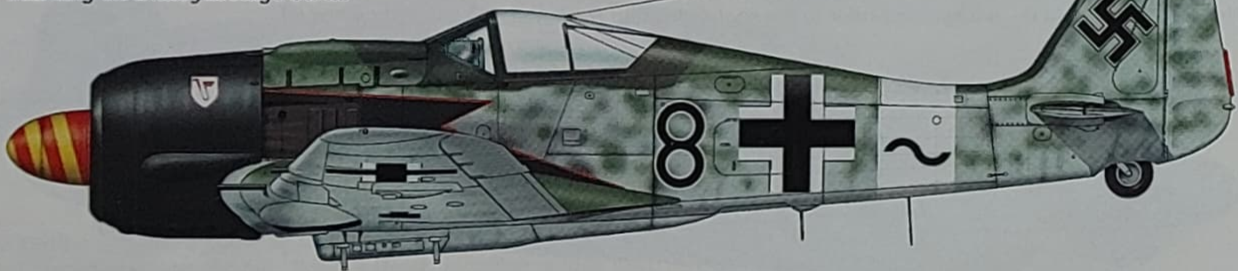


Fw 190A-8/R8 of IV (Sturm)/JG3 flown by Fw. Willy Maximowitz, Germany, June 1944. Upper scheme of RLM 74/75 over basic RLM 76, with dark blue 24 nose ring and spinner, the latter having a white spiral. Yellow 04/black 22 RVD band around rear fuselage. "4" on fuselage is also in dark blue 24 outlined in white.

Fw 190A-7, W.Nr. 430 352, of 2./JG 1, early 1944. RLM 74/75 on wing and horizontal tail surfaces with 76 on all other surfaces. Fuselage top decking and some slight mottling on tail is in 75. Red 23 fuselage band and spinner while "3" is in black with a thin red outline.



Fw 190A-8/R8 of IV.(Sturm)/JG3 "Udet", June 1944. Aircraft is finished in RLM70/71 upper surfaces over RLM 76; mottles on fuselage side are also in RLM 70 and 71 over RLM 76. Black 22 nose section with a red 23 outline on the fuselage. Black "8" outline in white and variant of III Gruppe wavy identity marking on white fuselage band.

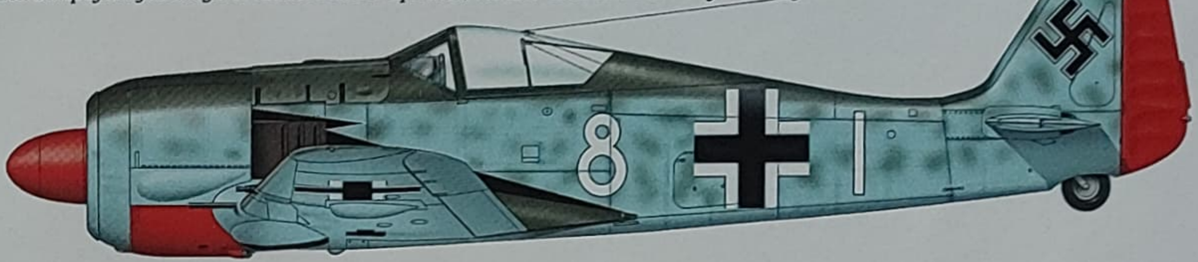


Fw 190A-8 of I./JG301 in late war markings. RLM 74/75/76 scheme with red 23 and yellow 04 nose and fuselage bands. Chevron is black with white outline while the individual number "4" is in yellow 04. All national identity markings are black only except above wings, where they are in white.

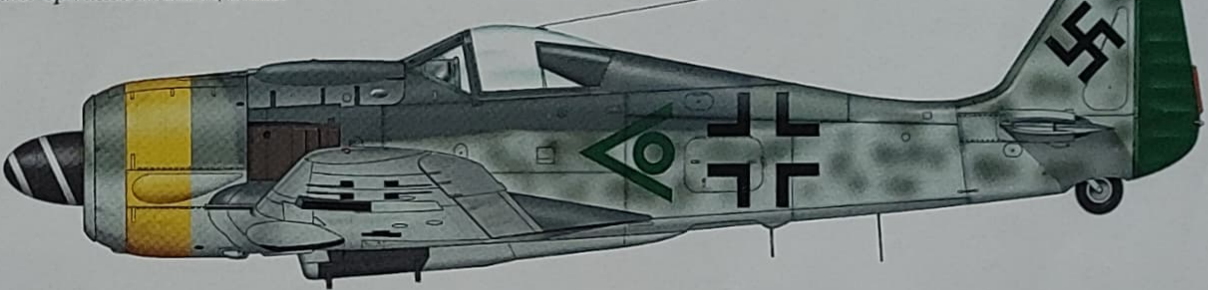
Fw 190 F-8/R1, W.Nr. 586 875, of an unknown unit, 1945. Upper surfaces in RLM 02/82 with 76 undersides. Tail section seems to have come from another aircraft as upper fuselage camouflage ends at joint. "2" and horizontal bar are in yellow 04 outlined black; rudder and cowling band in yellow 04. Black crosses on fuselage and under wings; white above wings; swastika on fin in black outline only.

Fw 190F-8, W-521 of the 102/2 Fighter Bomber Squadron of the 102nd Air Battle Group, Hungarian Air Force, Várpalota, winter 1944-45. Standard RLM 74/75/76 scheme with the Hungarian cross markings carried in all six positions. Yellow rear fuselage band and "v" marking under the port wing only. Rear fuselage codes W-521 are black while the "21" is repeated on the nose in white. Rudder stripes are red (top), white and medium green.

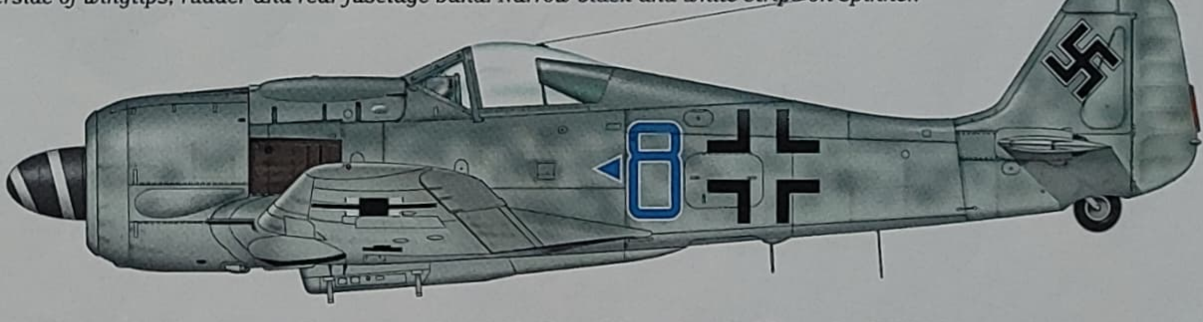
Fw 190F-8 of SG4, Köln - Germany, January 1945. This aircraft has an RLM 74/75/75 scheme and simplified fuselage crosses. Rot 23 spinner, rudder and underside of cowling.



Fw 190F-9, operated by an unknown unit, Spring 1945. RLM 02/75 top colors over RLM 76 fuselage sides and undersurfaces, with mottling in 02 and 75, although there appears to be a darker color as well, probably RLM 70. Yellow 04 nose band and green 25 chevron and circle on fuselage and entire rudder. Spinner spiralled in black/white.



Fw 190F-8, of Stab II./SG 4, Russia, Summer 1944. RLM 02/76 scheme with yellow 27 nose, underside of wingtips, rudder and rear fuselage band. Narrow black and white stripe on spinner.



Fw 190A-7/R6 of II./JG.1, Western Germany, spring 1944. Aircraft is equipped with a pair of W GR.21 rocket launchers and external 66-gal. tank. RLM 74/75/76 scheme with red 23 rudder and underside of cowling. Spinner in white with red spiral. Fuselage markings are red with white outline. Note no white outline to fin swastika.

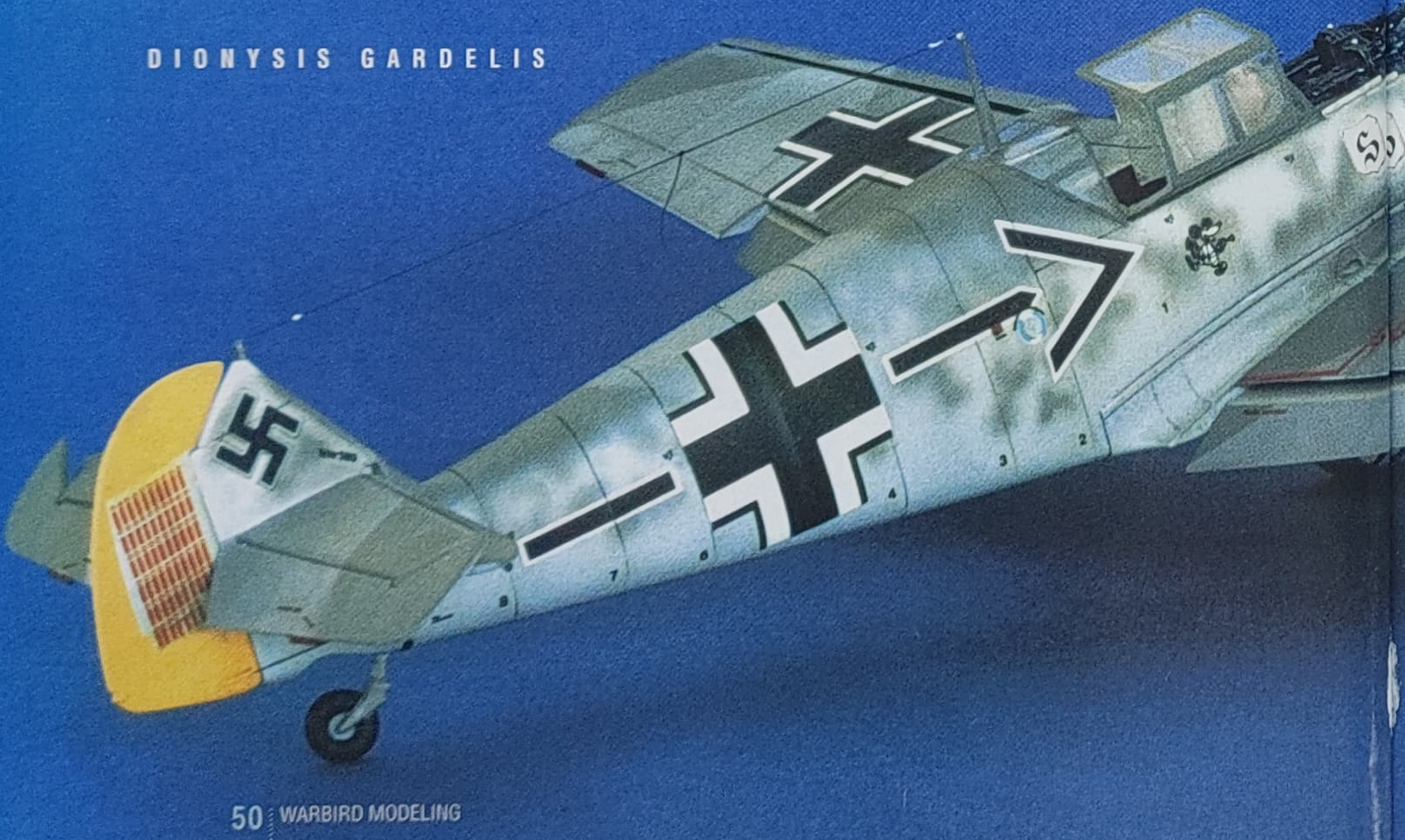
Messerschmitt

Messerschmitt Bf 109-4 Galland: Hasegawa
Detail Sets: Verlinden, CMK

Acrylic colors: AeroMaster, Gunze Sangyo, Tamiya
Enamels: Humbrol
Acrylic varnish: AeroMaster, Tamiya
Decal solution: Microscale

Adolf Galland flew almost every type and version of aircraft in the Luftwaffe fleet. The Me (or Bf) 109s he flew were different in comparison with other production aircraft, at least as far as armament was concerned. The German ace considered the Me 109's standard-issue armament wholly inadequate, particularly for freshly trained young pilots. The guns' short range required the pilot to get too close to score a kill. Galland was of the opinion that young pilots should be more concerned with their own personal safety, and flying the Me 109 properly. He felt that they should not have to get dangerously close to their opponents and risk being shot down themselves in order to secure the much sought-after first kill.
The following is a description of the building of an Me 109E-4 decked out in Adolf Galland's personal markings.

DIONYSIS GARDELIS



Messerschmitt Bf 109E-4

Bf 109E-4

Adolf Galland's Eagle

Note the engine oil cooler mounting plate, as well as all the wiring around it.

The differences between the fuselage and the wing camouflage application can be seen clearly.

The kit had been bought along with the Verlinden detail set some years ago and had been patiently waiting its turn. Originally I had intended this to be a straight-from-the-box project, even down to the decals supplied with the kit, without further improvements. That is how things had got under way with the construction of the cockpit when over the internet I received excellent photos of an Me 109 being restored. Its engine was not fitted, and all the small details were there to be seen by any interested party.

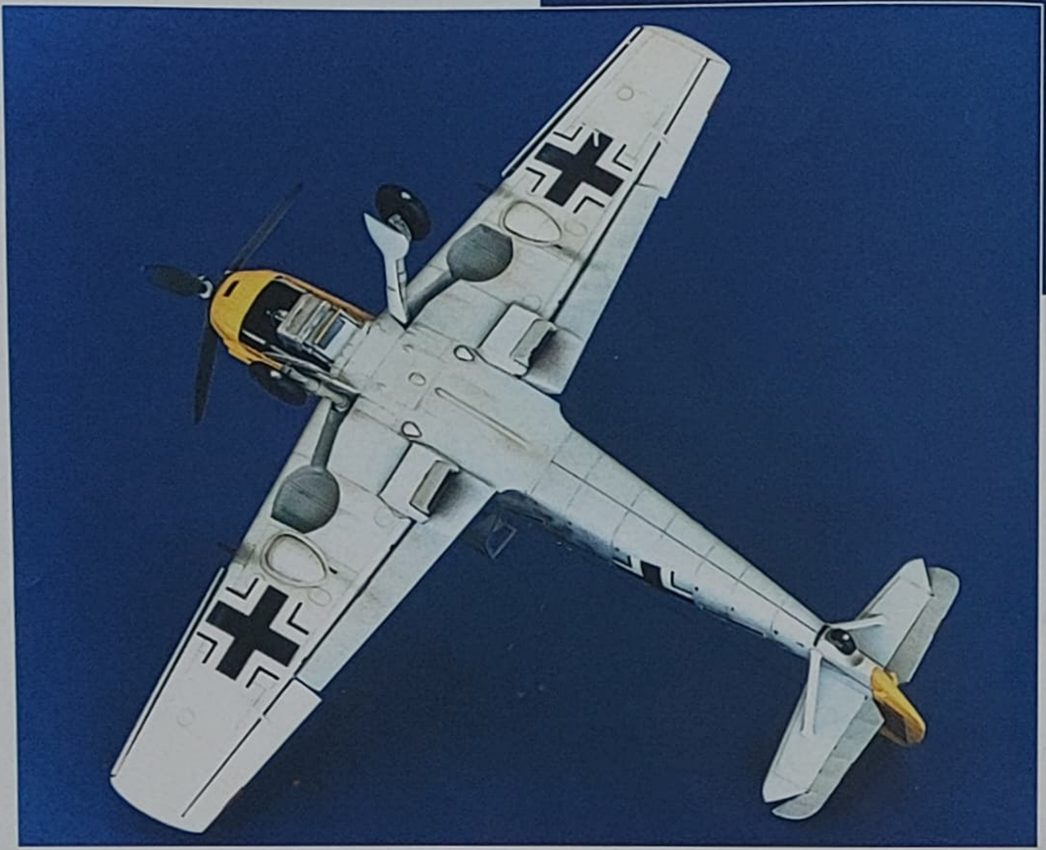
So I started by cleaning up the resin parts from the Verlinden set, after carefully removing them from their runners so as not to accidentally damage anything.

The engine itself needed quite a bit of work. According to the instructions, the lower portion is not supposed to be visible, and it is not shaped correctly. As I wanted to reproduce all the details in this area, I went to work with a motor tool and a file. I cut away resin between the cylinder heads and added wiring from lead wire. Using fine copper wire, I added the maze of piping present on the engine's topside. I also replaced the electrical distributors on both sides of the engine block. A pair of wires goes from each distributor to each cylinder. Finally, various pieces of styrene stock were added to the rear upper part of the engine, behind the supercharger, to simulate the filters.

The engine frame was made from the two lower parts of the fuselage that were left after I had removed the panel covering the oil cooler. Fortunately, Hasegawa provides drilled-out exhausts. However, an intake that should be in this area is only indicated by a scribed line. Using a fine square-section file, I opened it up to add another touch of

realism to the model. When I tried to fit the engine to the frame, I discovered there was a huge gap between the engine exhaust outlets and the frame itself, which revealed the absence of exhaust pipes. To remedy this, I used lengths of oval-section plastic to simulate the exhaust pipes. The length was determined through trial and error by test-fitting them to the engine.

The engine block was painted black, to which a few drops of gray had been added, while the cylinder heads and the lower portion of the engine were finished in gray. For the exhausts, I used a mixture of red, black, and gold enamel. I used various shades of gray, and brown pastel chalks to simulate weathering around the engine. Tamiya oil and smoke were used to simulate stains and fluid leaks, which were very common around the engine.



Forward airfields used by Axis forces left their mark on aircraft. The under surfaces were just as worn and weathered as the upper sides. However, an aircraft flown by an ace like Galland would probably get some special treatment, so I restrained myself while weathering.

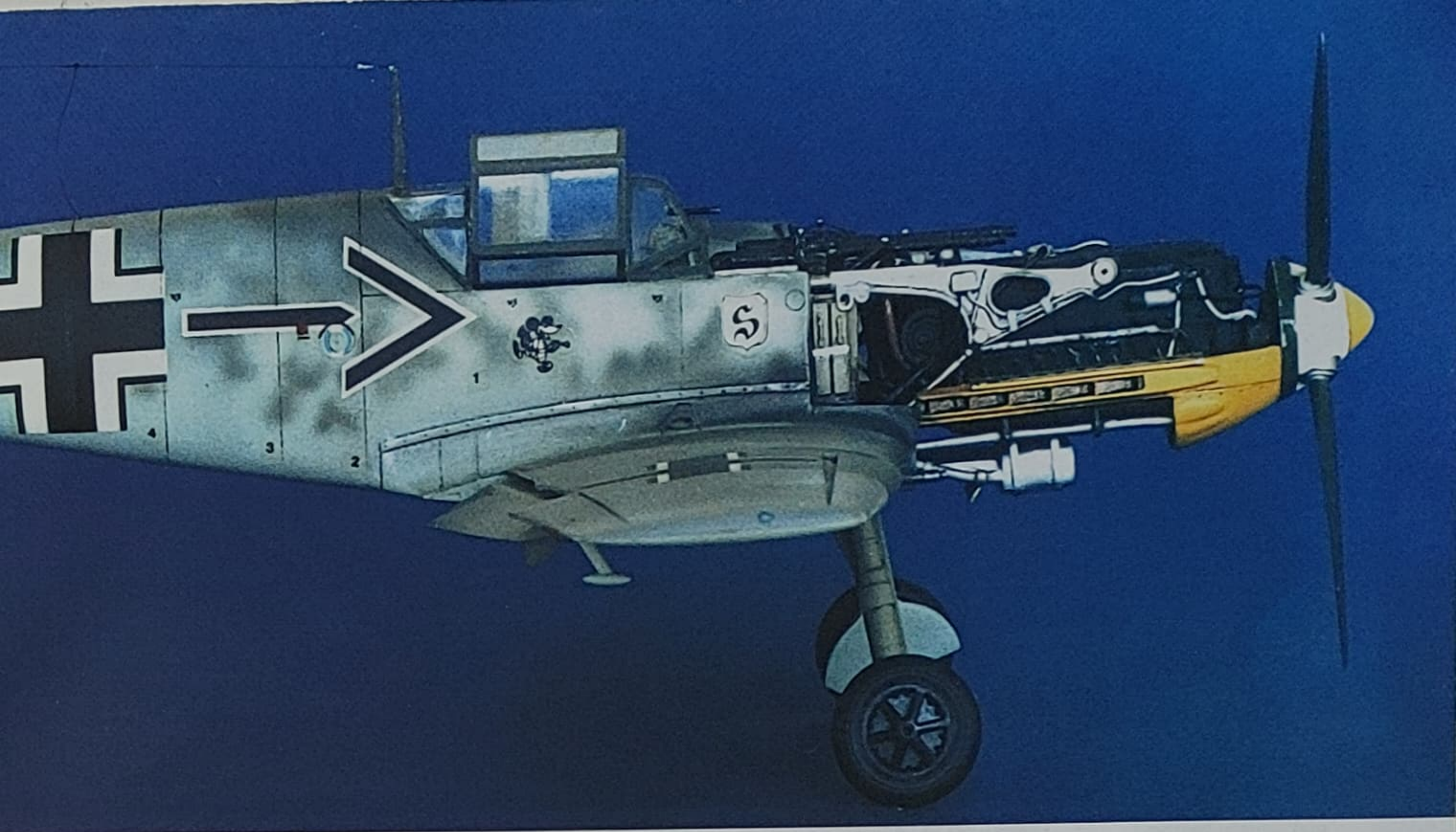
The oil cooler was built from styrene strip and with the mesh from the Verlinden set added to its front. Care is needed when working in this area because all the piping runs through the fuselage firewall through two small holes located near the main gear strut attachment.

The engine support brackets were installed after the engine was painted but before attachment to the fuselage. Many wires leading to the fuselage are supported by the engine brackets, which created an impression of chaos around and behind the engine. All this wiring was added using fine copper wire; it was carefully painted using a very fine brush in order to avoid spoiling any previously painted parts.

Both the oil cooler and the engine bearing struts were painted in Tamiya's acrylic aluminum (XF-16). S n' J powder was rubbed into carefully selected areas to give the whole assembly some "depth." A few fluid leaks were added using thinned black paint.

The front disk-shaped part of the engine compartment was removed as on the real aircraft. This was the location of the oil tank. The gap between the engine block and the propeller spinner was filled with part No. R9 from the Verlinden set, after it had been widened with styrene strip.

I decided not to add the air filter, so in its place I built a base plate. This is a small oblong piece with a hole in one end. When this is attached to the engine you will have to make sure that it is located just in front of the supercharger.



The surface where the kill markings are applied is in the original camouflage color, RLM 65. The oil cooler under the engine was constructed from Evergreen plastic rod.

FUSELAGE

I started work on the fuselage by removing all panels to make the engine, machine guns, and the rear of the instrument panel more visible. As already mentioned, the lower part of the fuselage along with the exhausts were left to form the engine frame, so it should be removed with great care in order to not damage it. I also removed the rudder, so I could repostion it at an angle at the end of the build. This was in fact done after painting it in AeroMaster's RLM 04. The place where the decal with the kill markings would be applied, was finished in the "old" camouflage color, RLM 65. This detail is perfectly reproduced by Hasegawa with decals 26 and 29.

Using a motor tool, I reduced the thickness of the fuselage, working on the inside surface at the point corresponding to the wireless compartment. This way the access panel was removed more easily. At the same time, the thin plastic at the edge of the cut was much more realistic.

The cockpit was built and painted according to the instructions in the Verlinden kit. The main color here is AeroMaster RLM 02. I simulated weathering using pastel chalks, and simulated paint chipping on the floor with aluminum.

The instrument panel was finished in black enamel, and the details were picked out by dry-brushing with White artist's oil. On the rear face of the instrument panel, the instruments themselves were simulated with short lengths of plastic rod. Galland used to boast that his was the only Me 109 equipped with a cigar lighter! Unfortunately, this was one detail I was unable to add as my references were sadly lacking on this point.

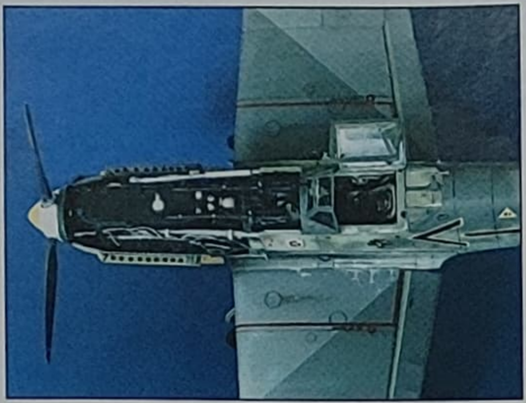
The gun sight needs some improvement to accurately represent the one that equipped the German ace's aircraft. At the point where it goes through the windshield, I added white woodworking glue that dried completely clear, and it was tough enough to hold the sight in place securely. It is worth mentioning here that a separate set just for German gun sights is available.

The wireless compartment was constructed according to the instructions. The walls and brackets, as well as all the internal details, were finished in RLM 02, while the wireless and its ancillary equipment were painted flat black. I tried to add a little interest to the area visible through the access hatch by painting all the wiring present in this area different colors. A wash of thinned artist's raw umber and dry-brushing with artist's titanium white made all the detail in this area more apparent.

The firewall comes as one part along with the ammo boxes. The latter are also the mounting points for the MG-17s. The two machine guns by CMK are excellent scale reproductions. After removing their central portion, which corresponds to their attachment point to the ammo boxes, I attached the body of each gun on one side of the box and the barrel on the other. Care is needed to make sure that the body and the barrel are lined up correctly.

Another point to note is that one gun is placed about a millimeter farther back than the other, so do not attempt to place them exactly next to each other because they will not fit that way. This was the reason for their staggered placement on the real aircraft to start with.

The guns were painted in Tamiya acrylic silver, and when they had dried, Humbrol gun metal was applied. After that, they were lightly rubbed with an old, soft toothbrush to create a few random scratches. The gun cradles were scratchbuilt. These start from the firewall, go forward between the



Detail of the cockpit and machine gun area. A little weathering with a silver pencil was added to the points where the pilot would enter.

engine and its support brackets, and end at the barrels where there are two characteristic rings that are included in the detailing set. I did not fit the flash eliminators because the brass used for the photoetched parts was far too stiff and resisted all attempts to bend it to the correct shape.

There is a flat panel between the instrument panel and the ammo boxes that divides the cockpit from the engine bay and serves as a base to support the MG-17s. A thin piece of sheet styrene took its place to fill the gap.

Thin strips of painted clear decal film were used to simulate the cockpit canopy framing. Of all the parts included in the Verlinden set, only part No. 20 was used. It represents the canopy locking mechanism, the pilot's head armor, and the window latch. At the points where the canopy contacts the fuselage, paint chipping was simulated using aluminum.

Hasegawa provides separate parts for the slats and the flaps, thus helping to speed up the completion of the model. The fabric-covered areas on these parts are rather poorly simulated. This is one area where the Tamiya kit is evidently superior.

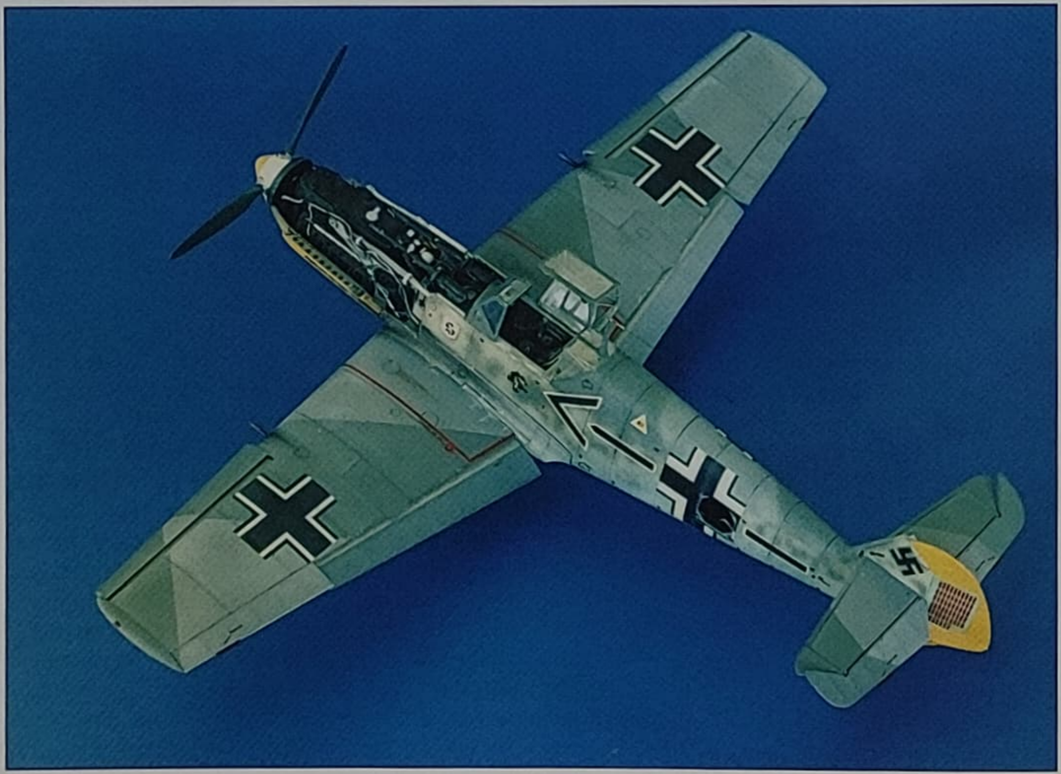
The metal mesh provided is the ideal solution for the radiators and coolers, the only addition needed here being the small rod in the center of the cooler, which was made from stretched sprue. Again all interior surfaces were finished in RLM 02.

After attaching the wings to the fuselage, I had to close the gap under the ammo boxes. This is where almost all the wiring from the engine radiator, the engine itself, and all the ancillary equipment ends up. Moving to the tail control surfaces, the elevators were removed from the tailplanes and repositioned in angled positions.

PAINTING AND WEATHERING

Although there were many differences between the aircraft used by Adolf Galland and the standard version, the instructions provided by Hasegawa are surprisingly accurate, at least as far as scheme 2 is concerned. This is the one applied to the Me 109 he flew in December 1940 on the French-British front; it is of course none other than the standard three-color RLM 74, 75, 76. Even though the demarcation lines on the wings are particularly sharp, the same does not apply to the fuselage. On the upper half, the two colors feather into each other. On the lower half the RLM 74 mottling reaches low and is heavily feathered, considerably dulling the much lighter RLM 76.

AeroMaster acrylic colors were given a coat of



A light application of artist's pastel chalk sent the model back in time!

For the engine and ammo boxes, the Verlinden set was all that was needed, along with a few additions, to achieve this result.

I waited almost two months for Czech Masters to release the MG-17 set, but it was worth it.

Tamiya gloss varnish. Decal application required copious quantities of Microscale decal solution, but the final result was quite satisfactory.

After this, a wash of thinned artist's oil raw umber was applied to run into the panel lines. In places where the wash failed to bring out the panel line detail, a drafting pencil with a very fine point was used. Two coats of AeroMaster flat varnish sealed the markings and the wash.

I had decided not to weather the model too much, so only a little fading on the camouflage colors was simulated using pastel chalks. The disadvantage of this technique is that the model becomes extremely vulnerable to fingerprints. However, it is quicker and easier to make corrections, as any excessive chalk can be removed with a bit of wet paper towel.

This fading was also applied to the national insignia, which took on a more worn look after a touch of gray was applied. Paint chipping was limited to areas where the pilot or ground crew would tread and the wing's leading edges. I used a silver Faber Castell pencil, and the result was perfectly satisfactory, even after the model had been sprayed with flat varnish. According to photos, there was very little staining from the exhausts. This was simulated using black, gray, and brown pastel chalks.

It was now time to take care of all those smaller details that had been left until last. The painting of the spinner proved to be quite a task. After a number of failed attempts I finally managed to make the circles look concentric. I used Gunze H65, H1, and H329.

The wheel hubs were painted semi-gloss black, and much care was needed to paint the shock absorbers, which were made flat black instead of the usual silver color. The only addition to the landing gear was the brake lines. One was added to each strut using fine solder.

The inner faces of the flaps are finished in the same way as the upper surface camouflage. However, there is a band of RLM 02 along the trailing edge. The same applies to the inner surfaces of the slats and the main landing gear wells.

The navigation lights were simulated by applying a drop of super glue, then dry-brushing, and, when it was dry, painting it the appropriate color. The port navigation light was painted with transparent red and the starboard one with transparent green, both by Tamiya. The wireless antenna was added from stretched sprue. At the point where it enters the fuselage, a drop of super glue simulated the insulator.

The rudder control wires were attached to the very fine photoetched components from the Verlinden set to the points where they enter the fuselage. This is one more area where the Hasegawa kit is superior because the raised detail in this area on the Tamiya part does not convincingly reproduce the original.

The final parts added were the pitot tube and the elevator counterweights. That brought the model to completion.

FINALLY...

The model is very good and easily holds its own with the more recent Me 109 by Tamiya. There are some places, such as the nose shape and the hollowed-out exhausts, where this model is actually superior. Even though it was not a limited run kit, the original release contained a number of metal parts, which in more recent releases have been replaced by plastic ones.

The Verlinden set is particularly well-detailed, and the more recent sets (VL1321, VL1302) for the Me 109 are even better, although they are tailored for the Me 109G.

Although the detail has not been reproduced very well on some of their resin parts, the most recent releases from the company are free of any such casting defects. One does need some practice to acquire the skill of using and working with photo-etched brass components. The results, however, are well worth both the effort and the cost involved. Finally, Czech Masters machine guns are faithful scale reproductions of the originals. Very few modifications are needed to fit them to a number of German aircraft. ■

Messerschmitt Bf 109E-4

Me 109E-4: A SPECIAL PLANE + A UNIQUE PILOT = A WORTHY ADVERSARY!

Adolf Galland was born on March 19, 1912, in Westerholt and was one of three sons. He made his first glider flight in 1927 and soon became a champion competitive glider pilot, thus winning a place in the Lufthansa pilot training school, in Braunschweig. In February 1935 he was admitted to the combat training school of the then clandestine Luftwaffe, where he excelled as a civilian pilot. However, during an aerobatics exercise, he made an emergency landing. As a result, he broke his nose and seriously injured his left eye. Following three months of medical treatment, he was deemed "unfit for flight." Following this, and largely due to his single-mindedness, he wrecked another aircraft, making his position worse.

Despite all this, and with the help of an officer, he memorized the letters on the optometry chart, passed the examinations, and was reinstated to active service in the Luftwaffe.

When the Spanish Civil War broke out in the summer of 1936, Galland volunteered for the Condor Legion, a supposedly secret military unit created by Hitler in order to aid Franco. Galland was placed in command of a squadron equipped with antiquated Heinkel 51s and flew at least 300 missions against Republican forces.

The autumn of 1939 found him on the Polish front, flying missions in support of infantry in a Henschel. He completed 50 sorties without incident. A fortnight later, the dream of every enthusiastic young flier came true for him. He would fly the legendary Me 109E. On May 12th 1940, over Liege, two Hurricanes flown by Belgian pilots became Galland's first prey. Two weeks later, a Spitfire followed while attempting to evacuate along with the rest of the British Expeditionary Force. The following week he shot down two French Moranes. In July, he took part in the Battle of Britain flying two to three sorties a day escorting German bombers against RAF Spitfires and Hurricanes. It has been said that in August 1940, Goering, on an official visit, admonished German fliers for their failures and asked Galland how victory could be achieved. The experienced flier replied that he would like his unit "to be issued with Spitfires!" leaving Goering speechless with fury.

Galland continued to fly in the skies above France, with one victory following another. By Christmas 1941, he had been promoted to Major General and was the youngest in the German forces with the title of Jagdführer. In the spring of 1943, disobeying orders, he took off in a Focke Wulf 190 and attacked a formation of American bombers, shooting one down in the process. He repeated this escapade in the autumn of 1944, shooting down a B-17 over Magdeburg. This time, however, he found himself up against four P-51 Mustangs and only just managed to survive the encounter and return to his unit. In December 1944, while the Red Army was advancing into Germany, Hitler summoned the majority of the Luftwaffe to participate in the attack on the American forces in the Ardennes. Three hundred pilots were lost in this desperate attack, which in no way constituted the defense of the Third Reich that Galland had in mind. In his memoir, entitled *The First and The Last*, he writes: "After that battle I lost all faith in the future development of operations."

A month later, together with Albert Speer, the Minister of Supply, he visited Hitler. Germany was under constant daylight bombing attacks from the allied forces, and on Galland's suggestion, Spear advised Hitler to concentrate his efforts on strengthening the Third Reich's "aerial defenses," placing particular emphasis on increasing aircraft production. Hitler was furious and sent them both off. Moreover, Galland was accused of insubordination and demoted in rank.

Although he no longer enjoyed the high Command's favor, he was allowed to fly the Me 262, one of the first operational jet fighters. The twin engine Me 262 could reach speeds of 500 mph, much faster than any other contemporary piston engine aircraft. On personal orders from Hitler, the aircraft's production was delayed for 18 months, and when he finally ordered it to be resumed, he demanded its redesign so that it could undertake bombing missions in revenge for the massive Allied aerial attacks.

"One might just as well have ordered to rename horses as cows" was Galland's sarcastic comment of Hitler's decision. The Me 262 finally entered production in October 1944 and immediately proved its success, scoring significant victories at once. In January 1944 Hitler assigned Galland with the formation of Unit 44 at Munich's Reim Air Base. Its equipment included the most advanced aircraft available at the time. By then it was too late. Allied bombardment continued day and night, foiling any offensive or defensive action.

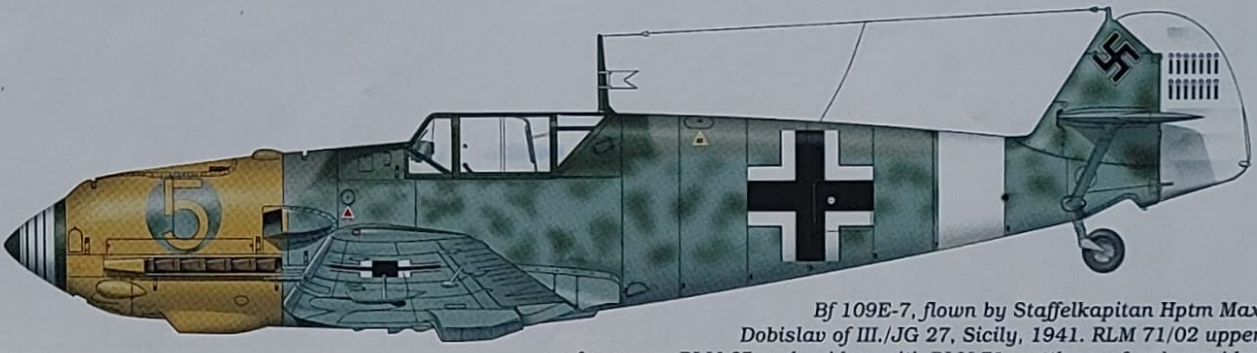
In May 1945, Galland was captured by U.S. forces near Salzburg in Austria and handed over to the British, who took him to England. In Great Britain he met a number of British pilots who had in the past been prisoners of war in Germany themselves. Among them was Galland's interrogator, Wing Commander Robert Stanford, nicknamed, Tuck. In 1942, after a forced landing in Boulogne in occupied France, Tuck had found himself as Galland's prisoner. To honor his British adversary, Galland had treated Tuck to a magnificent meal! Tuck repaid the courtesy by keeping Galland supplied with his favorite cigars and wine.

Galland remained a prisoner for two years, a length of time quite usual for prisoners of war. The two officers met again, years after the war at a wild turkey shoot. After 1947, Galland, as a civilian, worked as an advisor for the Argentine Air Force for seven years, and then went on to work in Germany. He died at the age of 84 in 1996 of a chronic illness, at his home in the town of Rhineland in Oberwinter.

Bf 109E-1, W.Nr. 4072, Red 1 of 2./JG 77, flown by Staffelkapitan Oblt. Hannes Trautloft, summer 1939. RLM 70/71/65 (FS#34052/34079/36329) scheme with early-style crosses on fuselage and upper wing surfaces. All markings red 23, outlined in white, as is the bar on the spinner. Stab I./JG77 marking is in white without the black outline as shown on the enlarged version.

Bf 109E-4, flown by Gruppenkommandeur Hans von Hahn, I./JG 3, France, summer 1940. RLM 71/02/65 (FS#34079/36307/36329) scheme, with yellow 27 (FS#33637) nose and rudder, 3/4 white and 1/4 black spinner tipped in RLM 02. Note 18 victories on the rudder.

Bf 109E-3, Yellow 10 of 6./JG 53, France, 1940. Upper surface pattern in RLM 71 and 02, undersides in RLM 65 with mottling in RLM 71 on fuselage sides (FS#34079/36307/36329). Spinner in RLM 70 (FS#34052). The "10" and horizontal bar on fuselage are yellow 27 (FS#33637), outlined black.



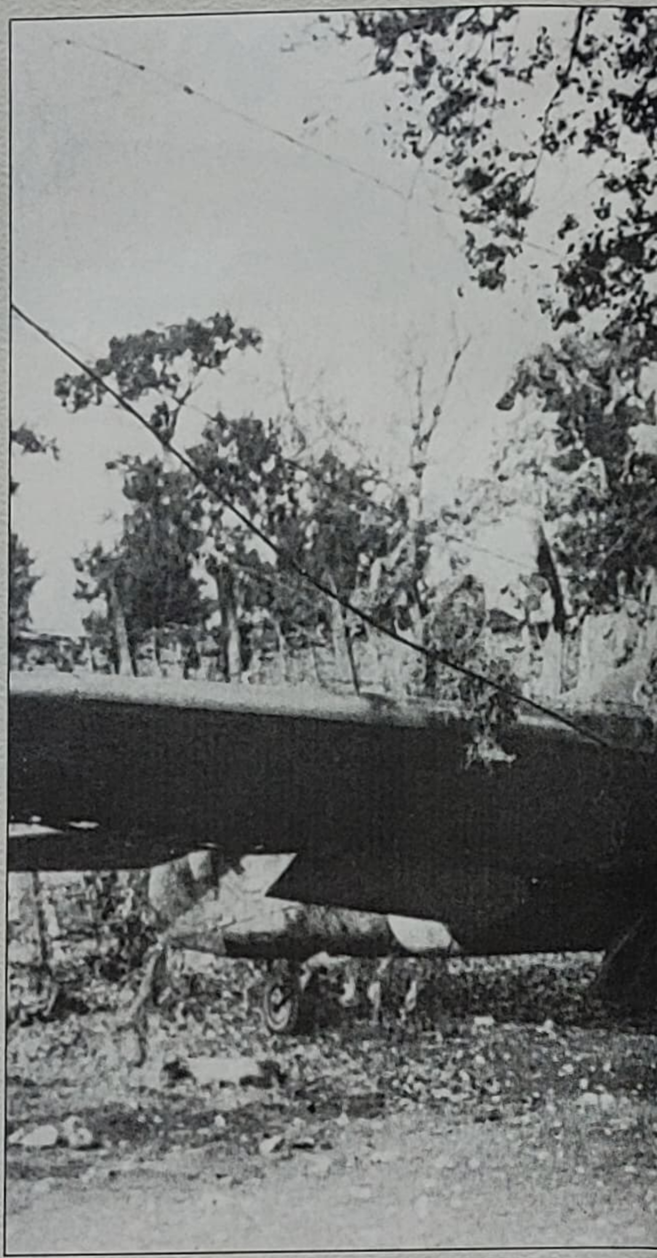
Bf 109E-7, flown by Staffelkapitan Hptm Max Dobislav of III./JG 27, Sicily, 1941. RLM 71/02 upper surfaces over RLM 65 undersides, with RLM 71 mottles on fuselage sides extending onto the fin (FS#34079/36307/36329). Yellow 27 (FS#33637) nose section, white rear band and rudder, which carries 14 victories. Note the white metal pennant on the aerial mast, and four white bands on the spinner.

Bf 109E-4/B, of Stab III./ZG 1, Eastern Front, autumn 1941. RLM 02 upper surfaces over RLM 65 (FS#36307/36329), with faded mottling on fuselage sides. Yellow 27 underside of the engine cowling and rear fuselage band. Light green 25 (FS#24108) spinner front and 'C' of code. Wespen motif faces front on both sides of the nose. All other codes, and spinner backplate are in black. Note the SC 250 bomb rack and bomb under fuselage.

When Mussolini decided to join hostilities on the Axis side on June 10, 1940, Italy was far from prepared for war. Similar to other countries, there were manufacturers working on prototype development to produce state-of-the-art fighter aircraft. These developments, however, were heavily burdened by bureaucratic setbacks and financial limitations.

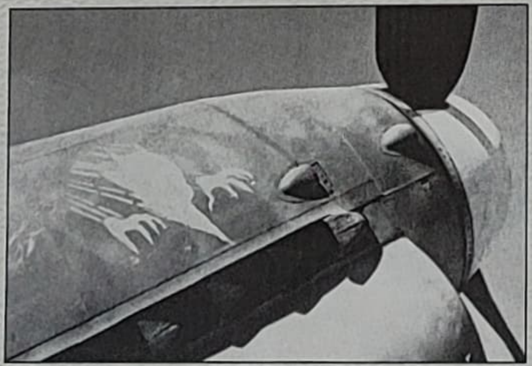
RICHARD CARUANA

PHOTOS: RICHARD J. CARUANA ARCHIVES



Italian Messerschmitts

Bf 109s with the Regia Aeronautica



A famous Regia Aeronautica unit marking was the "Diavolo Rosso" painted on the noses of 3 Gruppo aircraft.

One of the 3 Gruppo's Bf 109G-6s, with the "Diavolo Rosso" prominently featured on the nose, abandoned on a Sicilian airfield captured by the Allies after the island's invasion.

In addition, the Regia Aeronautica complacently believed its fleet to be more than satisfactory for combat and not in need of upgrading. In actual fact, most of the fighters on the Italian inventory were outdated, consisting mainly of biplanes such as the Fiat CR.32 and CR.42. The Fiat G.50 monoplane, still not available in great numbers, was crude by international standards, though a much better product from Macchi – the C.200 – was still entering service, and suffering teething troubles.

Military thinking at the time predicted the imminent fall of France, and that Britain would most probably seek a peaceful solution, bringing the war to a quick end. This was not to be. While Supermarine Spitfires and Messerschmitt Bf 109s were engaged in aerial duels during the Battle of Britain, the first really modern Italian fighter took to the air for the first time. Guido Carestiato performed the maiden flight of the Macchi C.202 on August 10, 1940. The realization of this goal depended entirely on the supply of a German engine, the Daimler Benz DB 601A-1, to be constructed under license by Alfa Romeo.

However, even the beautifully designed C.202 had its weak point – light armament consisting of a pair of 12.7mm machine guns that were absolutely no improvement over the armament of the older C.200. Heavier armament, in the form of Mauser cannon in the wings, was to be incorporated in a

Bf 109G-6/R6, 363-7, belonging to fighter ace Capitano Ugo Drago, commanding officer of the 363 Squadriglia, 150 Gruppo. Unit leaders usually flew aircraft No. 1, but Drago preferred No 7, a number that he also flew when he served with the Aviazione Nazionale Republicana.

further development of this aircraft, the C.205, whose gestation period was to last much longer than originally expected.

The Regia Aeronautica's share of the war booty from France turned out to be a meager morsel. A number of obsolete Morane Saulnier MS.405 fighters arrived in Italy in a shocking state, and none were considered adequate for military service. In only slightly better condition was a group of Dewoitine D.520 fighters, which were mainly assigned to training units, although some of these aircraft were formed into operational units for airfield point defense.

The Regia Aeronautica had already begun to look elsewhere, especially toward its German ally, for the procurement of modern aircraft to augment its fighter forces. In a relatively short time, the Italian air force had become involved in most of the Axis' active theaters, and they were planning to enter the fray in still more. An acute scarcity of aircraft developed, and fighter units had to be moved from one battle sector to another on short notice as one crisis followed another.

Between November 1942 and April of the following year, practically all the aircraft the Regia Aeronautica had committed to the North African campaign had been lost. There were also disasters in the Balkans, Greece, and Russia, while Malta became an altar where the best Italian fighter pilots were sacrificed in a seemingly useless struggle.

The Italian aircraft industry could not replace the losses fast enough, especially since a certain amount of time and effort had been devoted to fruitless ventures, such as the Reggiane Re.2000 and Re.2001. There was only one way to fill the gap until better indigenous fighters, such as the Macchi C.205, Fiat G.55, and Reggiane Re.2005 could enter service: the acquisition of the most famous German fighter of them all, the Messerschmitt Bf 109.

MEETING THE AUGSBURG EAGLE

Regia Aeronautica officers first came into contact with the Messerschmitt Bf 109 at the Zurich-Dubendorf International Airshow held between July 23 and August 1, 1937. After he had a short familiarization flight in a Bf 108 Taifun, Maggiore Aldo Raimondini, commander of the Italian aerobatics team participating in the event,

managed to secretly arrange a one-hour flight in one of the German fighters on display. This came about as a result of the personal friendship between Generale Valle, Commander of the Regia Aeronautica, and General der Flieger Erhard Milch. Although German and Italian pilots fought side by side during the Spanish Civil War, the Luftwaffe was so secretive about its latest fighter that the Italians were never allowed anywhere near operational Bf 109s.

More Italian pilots got to try out this machine in August 1939 when three Bf 109Es, three He 111s, and three Ju 87s visited the Centro Sperimentale (Experimental Test Center) at Guidonia. Mario Bonzano, Carlo Del Prete and Enzo Sant'Andrea, mastered the aircraft so quickly that they performed a full impromptu formation display. Their German colleagues were aghast, as such flying was expressly prohibited by the Messerschmitt's handling manual! This encounter ended mysteriously when all of the German aircraft departed from Guidonia without notice on September 1. They had received an urgent call to return home as Germany started to implement the next phase of its expansionist plans: the invasion of Poland.

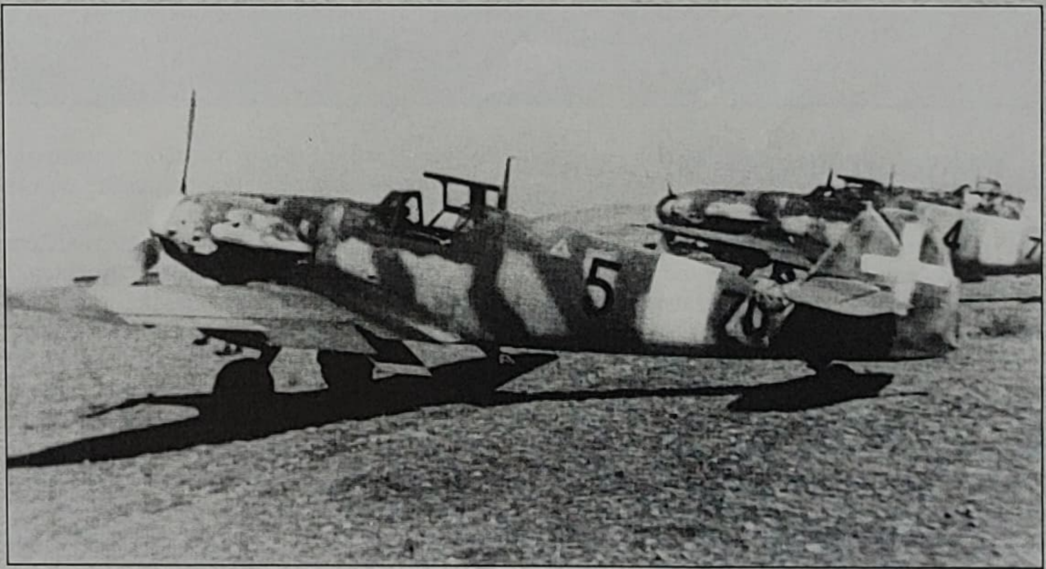
More than a year later, there was a more significant encounter. As another gesture of prestige, the Regia Aeronautica sent an expeditionary corps – the Corpo Aereo Italiano – to participate in the closing stages of the Battle of Britain, operating from Belgian airfields.

One one occasion, a Fiat G.50 pilot, lost in thick fog while returning from a mission over England, landed by mistake at Menden, in December 1940. The strange shape of the G.50 fighter attracted the attention of numerous German pilots at the base, including Adolf Galland himself. To his surprise, Galland found that Italian pilots were flying in drafty open cockpits, without radio aids or any of the survival equipment (such as dinghy, signalling pistol, etc.) so vital when operating over stretches of water like the English Channel. In addition, they had no provisions for heated flying suits.

Maybe out of pity, or maybe out of admiration for their courage, the German fighter ace offered Italian pilots a training course on the Bf 109E. Early in January of 1941, a dozen pilots left Maldegen, in Belgium, for Cazaux, in France. There, for a couple of weeks, they experienced the excellent flying qualities and superior performance of the German fighter.

The plan to integrate these Italian pilots with German units to fly operational sorties over the Channel had to be abandoned when the Corpo Aereo Italiano was recalled for re-assignment to other fronts, including Greece and North Africa,

One of the few Messerschmitt Bf 109Fs delivered to the Regia Aeronautica, taxiing out of its protective pen at Sciacca, Sicily, in June 1943. Note the yellow (Gelb 27) underside to the engine cowling.



One of the few pictures of the 70 Squadriglia. Highly unusual is the streaky manner in which the fuselage camouflage has been applied on "70-5" which also lacks the unit badge on its white band. The "Vespa Arrabiata" can just be discerned on "70-4" in the background.

where the situation was taking a bad turn.

Meanwhile, the Italians had obtained a single Bf 109E-3 during operations in the Balkans, after the fall of Yugoslavia. Little information is available on this machine, which was probably put together with parts cannibalized from several aircraft. A crude attempt seems to have been made to repaint it in Italian markings, but it was intended more as a propaganda gimmick rather than a genuine attempt to put the Messerschmitt to operational use. For more than two years, Regia Aeronautica pilots lost all contact with the Bf 109, except, of course, when flying side by side with them on numerous missions. The Italian pilots probably envied their German counterparts.

Allies sought to bring Germany's industrial strength to its knees through massive bombings. However, General Kesserling accepted Italy's request, through the personal intervention of Generale Ranza, for a further supply of Ju 87s, and fresh procurements of Ju 88s and Bf 109s.

The Regia Aeronautica requested a total of 300 Messerschmitts, but less than half that amount was eventually handed over to them. These consisted of 15 Bf 109F-4 Trop and F-4/R1, six Bf 109G-2, 10 Bf 109G-4/R1, and 91 G-6 of various versions, including R2, R4, R5, and R6, for a total of 122 aircraft. A Nucleo Addestramento (Training Nucleus) was formed at Vicenza, and by June 1943 it was training both air and ground crew from the 23 Gruppo on Luftwaffe-owned machines. Underwing MG 151 cannon gondolas, typical of the F-4/R1 and G-6/R6, were removed to improve the 109's handling qualities during the delicate phase of pilot training.

Apart from the Bf 109G-6, the 364 Squadriglia also had a small number of G-4s, one of which is seen here at Sciacca in June 1943. The Rustsatz 6, consisting of an MG 151 20mm cannon in an underwing gondola, was almost the standard armament on Italian Messerschmitts.

A PANIC STOP-GAP MEASURE

The Italian aircraft industry's difficulties with meeting demand worsened toward the end of 1942. Between November 1942 and June of the following year, the Regia Aeronautica lost some 1,600 aircraft through various causes, including attrition, combat losses, and obsolescence. Many aircraft were lost simply because they could not be flown out of North Africa and had to be left behind. Replacements from Italy's aircraft factories consisted of 160 new bombers and 758 new fighters, barely half the number actually needed.

The Luftwaffe, too, was feeling the pinch, as the

The first 30 planes delivered to the Regia Aeronautica were assigned to the 150 and 3 Gruppo, with the former becoming operational by April 1943, under the command of Maggiore Antonio Vizzotto. The 3 Gruppo exchanged its weary Macchi C.202s for Bf 109s in the middle of June. The 150 Gruppo was originally transferred to Catanzaro but was later ordered to move to the airfield at Sciacca, in Sicily, where its three Squadriglie (363, 364 and 365) could at best muster a total of 25 airworthy planes by the time of

the island's invasion in July. The 3 Gruppo (153, 154, 155 Squadriglie) at that same time had 17 operational aircraft based at Comiso, also in Sicily. Early in June, these Bf 109s were engaging Allied fighters and bombers in a large numbers around the island, and as far as Pantelleria.

Capitano Ugo Drago, commander of 363 Squadriglia, claimed two Spitfires, shot down during a fierce aerial battle on June 9, before being shot down himself. He survived to tell the tale and continue fighting. Likewise, 364 Squadriglia commander Capitano Mario Bellagambi shared a number of victories during those heady days of hectic combat. Interceptions of massive United States Army Air Force bomber formations became the order of the day; three Baltimores and seven P-40s were claimed as destroyed on July 4. It should be pointed out that both Drago and Bellagambi joined the Aviazione Nazionale Republicana after Italy's surrender of September 8, 1943. They continued to fly the 109 and were among the highest ranking Italian fighter aces of World War II.

Allied fighter sweeps accompanying the bomber attacks on Sicily decimated the entire Messerschmitt force on that island. By July 12, 1943, all personnel were recalled to mainland Italy. Three days later, only three aircraft from the 150 Gruppo managed to reach Ciampino, while the 3 Gruppo could not muster even one aircraft. Pilots and ground crews were transferred to Torino-Caselle on July 28 where it was hoped to re-establish both units with new aircraft, but Italy's surrender barely a month later in September prevented this.

Meanwhile, the third unit to be formed on the Bf 109, the 23 Gruppo of the 3 Stormo, had been established at Cerveteri. Only one of its three Squadriglie, 70 (the others being 74 and 75), was equipped with the Bf 109. By July 9, it could count on only 11 airworthy machines, and that number dwindled to two by the end of that month.

COLOR SCHEMES AND MARKINGS

Caught in the chaotic circumstances of the final months of fighting against the Allies, units of the Regia Aeronautica could ill-afford to dedicate time to color schemes and markings. From an examination of existing photographs, it appears that few, if any, of the Messerschmitt Bf 109s handed over to Italy were brand-new examples. The aircraft were most probably delivered either in a basic scheme with the standard radio call signs, or in the markings of the last German unit that had used them.

As far as the colors were concerned, all machines (with probably one exception, discussed below) were delivered in the standard RLM 74 Graugrün (gray-green, varying between FS 36081 and FS 36099), RLM 75 Grünviolett (green-violet, FS 26231) on all upper surfaces, usually in a

Bf 109G-6 364-1 flown by Italian fighter ace **Capitano Mario Bellagambi,** *commanding officer of the 364* **Squadriglia, 150 Gruppo. Sicily.** *July 1943.*

Personnel from the 70 Squadriglia, the only unit within the 23 Gruppo to operate the Bf 109G-6. Note the underwing MG 151s of the R6. The unit operated from Cerveteri in July 1943.

broken (splinter) pattern on the upper flying surfaces and along the spine of the fuselage. All undersurfaces and fuselage sides were finished in RLM 76 Lichtblau (light blue, FS 36473) with RLM 74 and 75 sprayed in a mottled pattern or large blotches along the fuselage sides and tail. It appears that during the initial training period at Vicenza, most of these aircraft retained their original colors, including German markings in the form of black/white crosses in all six positions and black/white swastika on the fin. Also noticeable was the number of spiral designs on the spinners, invariably in black and white.

By the time the units became operational, all German markings seem to have been painted over in Grigio Azzurro Chiaro 1 (light blue gray, similar to FS 36307), although a darker shade on some photos does not exclude the use at times of Grigio Azzurro Scuro 3 (dark blue gray, FS 36076). The touchups usually covered the rear fuselage, over and around the original crosses, over the fin swastika. The crosses on the top and the undersides of the wings were similarly covered.

The white fuselage band was also added, although it appears that Bf 109s of the 23 Gruppo had bands wider than the standard 50cm, while those of the 3 Gruppo were narrower. There was also no standardization in the application of the white cross on the fin and rudder; each unit adopted its own style.

The wingtips were supposed to be white, both on top and on the underside. Here again the Bf 109s of the 23 Gruppo were exceptions. This directive was completely disregarded on some aircraft, while others had white only on the underside. Also non-standard was the application of wing fasces, which consisted of three black axes within a black ring, with the axe heads always pointing toward the leading edge and to the wingtips. Most examples appear to have been stencilled, showing breaks in the outer circle. There is no hard-and-fast rule as to which units applied these markings, and one should carefully study photographs available for verification.

Two markings that commonly appear on Italian fighters of this period were missing from the Bf 109s. They were the colored fuselage fasces, usually carried near the cockpit, and the emblem of the House of Savoy on the rudder cross. Usually mandatory on Regia Aeronautica aircraft, these markings do not appear on any of the photographs documenting the Italian Bf 109s. The reason for this could possibly be a supply shortage, as they came in decal form and were not painted on by hand. In any case, official orders were issued on July 29, 1943, to remove all fasces markings on Regia Aeronautica aircraft, although it is doubtful this was the cause of their absence from the Bf 109s, most of which had disappeared from the inventory by that time.

Another noticeable feature on some Italian Bf 109s is the RLM Gelb (yellow) 27 (or Gelb 04 on rare occasions) underside of the engine cowling. Of typical Luftwaffe origin, this was retained on most examples assigned to the 150 Gruppo, while the 23 Gruppo had the yellow portions overpainted in Grigio Azzurro Chiaro 1. Most propeller spinners were repainted white, per official instructions, with the exception of a few that retained German spiral or quartered black/white markings; these, however, could have been replacements from German stocks.

One aircraft, Bf 109G-4/R1 (Trop) 365-8 of the 365 Squadriglia, had a most unusual scheme. This particular machine probably had been earmarked for desert use by the Luftwaffe but was

diverted to the Regia Aeronautica, as there is no sign of overpainting to obliterate Luftwaffe markings. It was finished in RLM 79 Sandbraun (FS 33434) on top of RLM 78 Hellblau (FS 35414). The underside of the cowling was Gelb 27, and it had the standard white wingtips, spinner, fuselage band, and fin/rudder cross. The style of the unit numbers was the same as on the other aircraft of this particular unit.

Heraldry is a prominent feature on Italian aircraft, and although the Bf 109s were a patchwork concoction of general finish, all three units carried their emblems with pride into battle. The most heavily documented was that of the 150 Gruppo, "Gigi Tre Osei" (Gigi Three Oasis). This can be found in a variety of versions, from the all-color elaborate form on Bellagambi's machine (364-1), to a simple white outline on 364-5. The most common was a gray/white version, with a white square border around it.

While "Gigi Tre Osei" features in numerous photos, the 23 Gruppo's "Vespa Arrabiata" (Angry Wasp) appears in photos only on a single 70 Squadriglia aircraft, 70-4, though this does not preclude the possibility that other aircraft of the unit also carried this marking. It is positioned in the same location as on the unit's previous Macchi C.202s, that is on the white fuselage band.

The 3 Gruppo elected to carry its "Diavolo Rosso" (Red Devil) on the extreme nose, a trait that was to continue on the Bf 109 even within the Aviazione Nazionale Republicana of Northern Italy after the Armistice. ■

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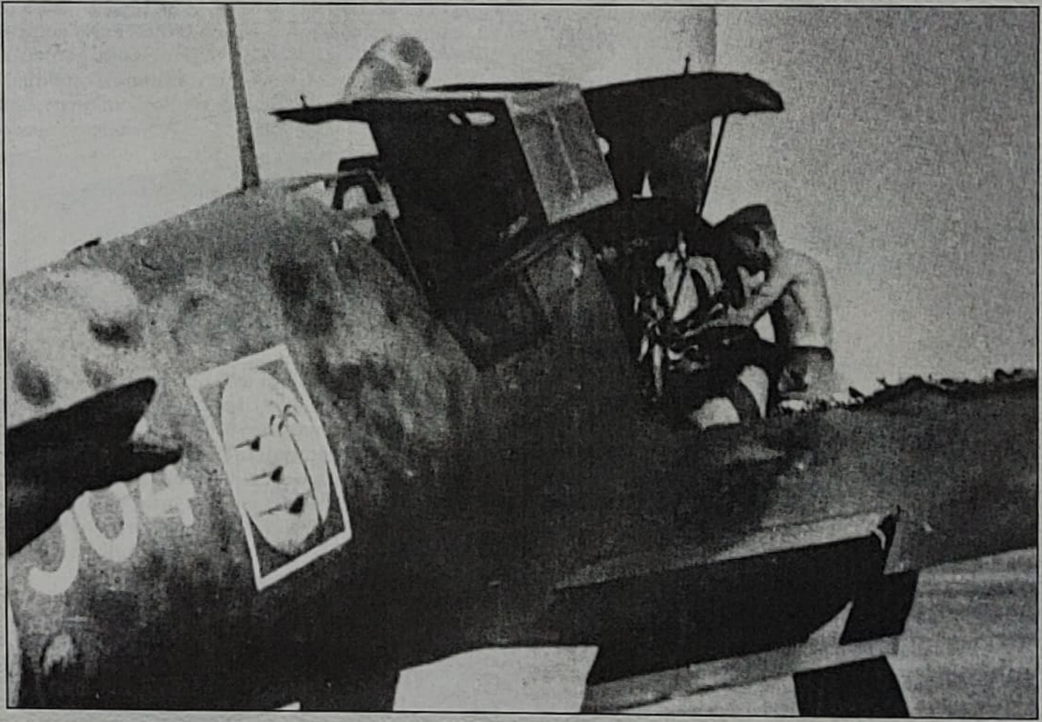
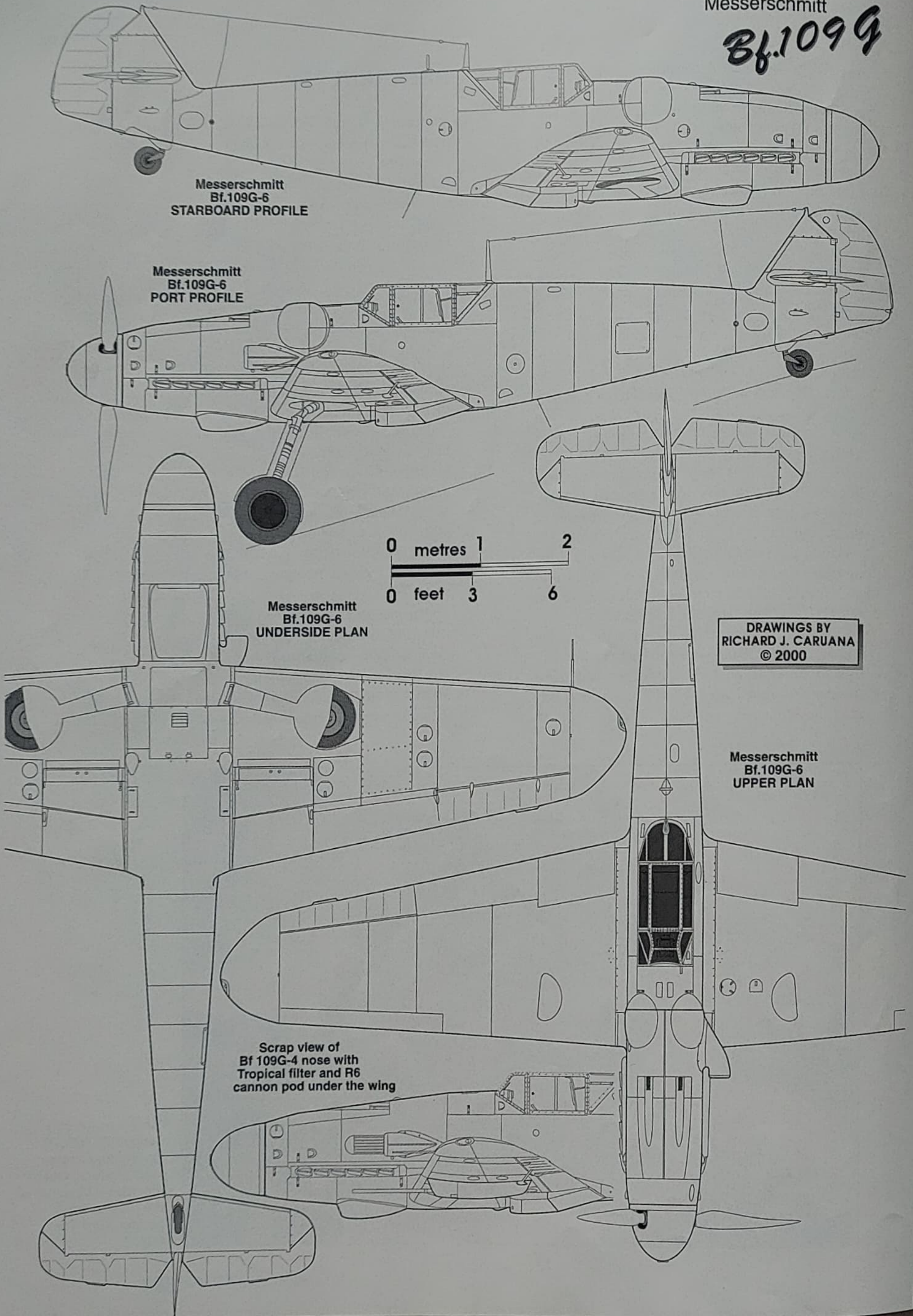


Close-up of a 150 Gruppo Bf 109G-6 undergoing engine maintenance, which provides a close-up of the famous unit badge, "Gigi Tre Osei."

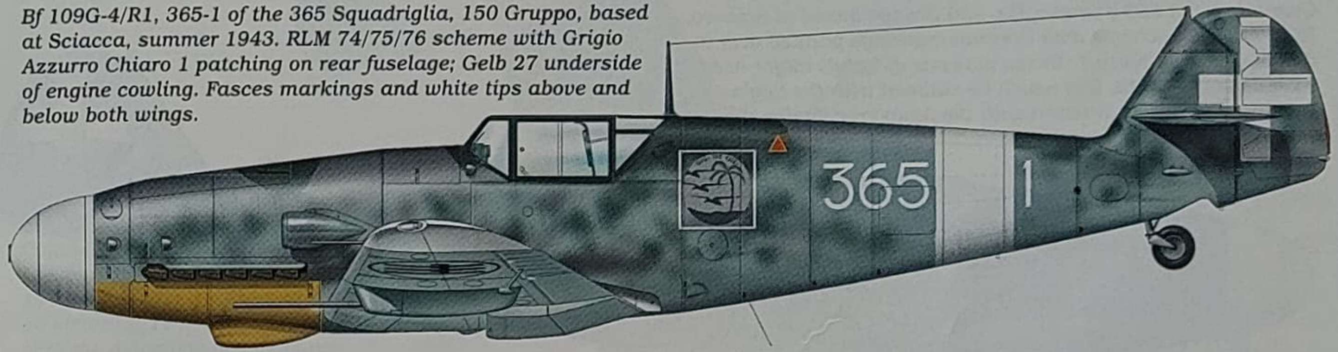
Messerschmitt

Bf.109 G

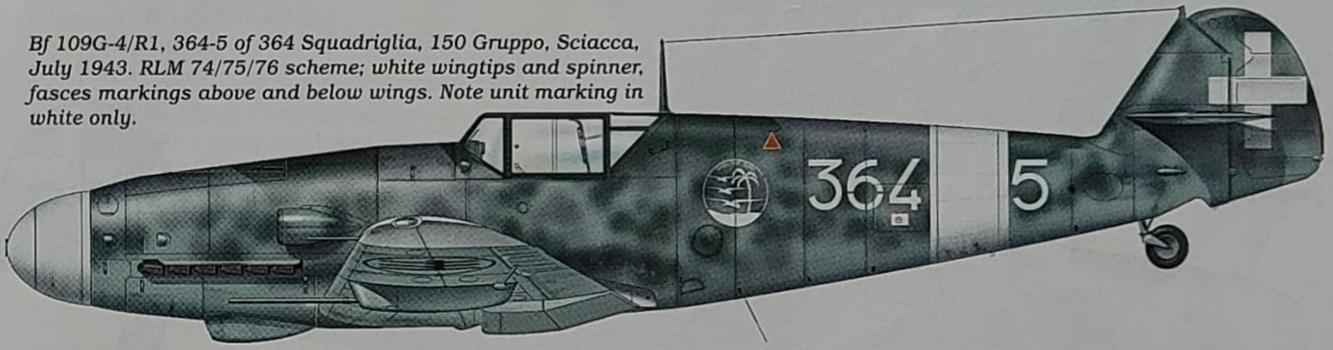


Bf 109F-4, 364-2 of the 364 Squadriglia, 150 Gruppo. Finished in RLM 74/75/76 with previous Luftwaffe markings overpainted in Grigio Azzurro Chiaro 1 (FS 36307). Monochrome version of unit marking on both sides of fuselage; number on other side reads 2-364. Fasces marking under wings only; white wingtips.

Bf 109G-4/R1, 365-1 of the 365 Squadriglia, 150 Gruppo, based at Sciacca, summer 1943. RLM 74/75/76 scheme with Grigio Azzurro Chiaro 1 patching on rear fuselage; Gelb 27 underside of engine cowling. Fasces markings and white tips above and below both wings.



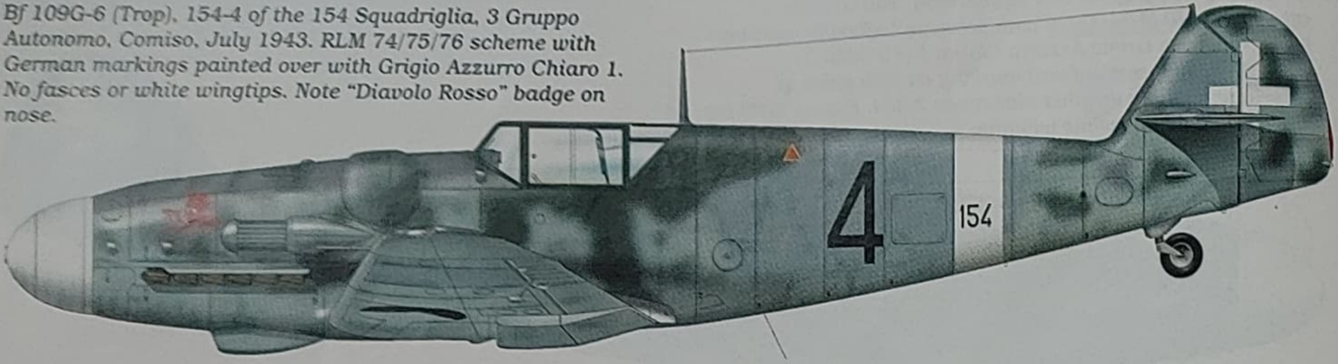
Bf 109G-4/R1, 364-5 of 364 Squadriglia, 150 Gruppo, Sciacca, July 1943. RLM 74/75/76 scheme; white wingtips and spinner, fasces markings above and below wings. Note unit marking in white only.



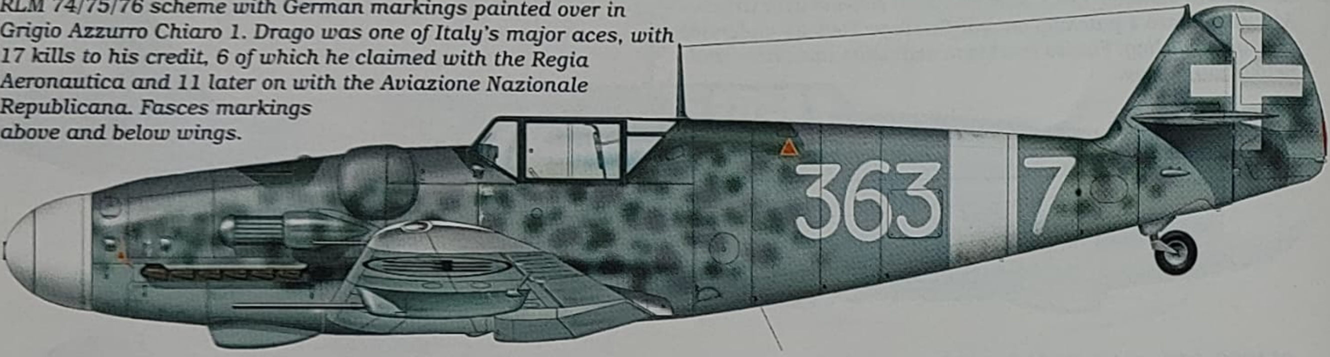
Bf 109G-4/R1 (Trop), 365-8 of the 365 Squadriglia, 150 Gruppo. This is probably a unique color scheme for an Italian "Gustav," consisting of RLM 79 Sandbraun over RLM 78 Hellblau. Standard white wingtips and RLM 27 Gelb area under engine cowling. No wing fasces above or below.

Bf 109G-6 (Trop), 153-5 of the 153 Squadriglia, 3 Gruppo Autonomo, Comiso, June 1943. RLM74/75/76 scheme with Grigio Azzurro Chiaro 1 covering German markings on fuselage sides, fin, and under the wings, together with a large patch under the nose which must have been in Gelb 27. Black/white spiral spinner. Note "Diavolo Rosso" badge on engine cowling. No fasces markings or white wing tips.

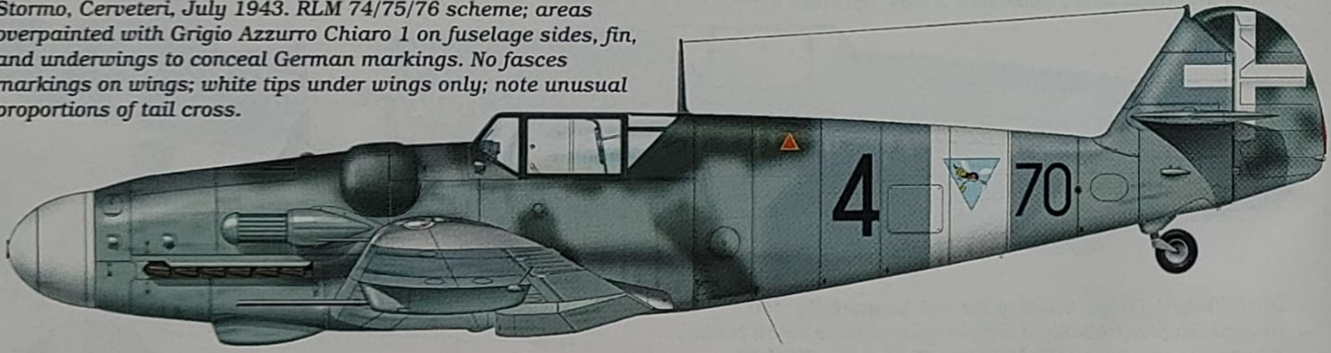
Bf 109G-6 (Trop), 154-4 of the 154 Squadriglia, 3 Gruppo Autonomo, Comiso, July 1943. RLM 74/75/76 scheme with German markings painted over with Grigio Azzurro Chiaro 1. No fasces or white wingtips. Note "Diavolo Rosso" badge on nose.



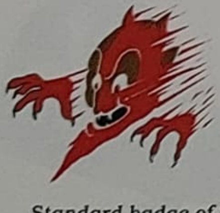
Bf 109G-6/R6 (Trop), 363-7, flown by Capitano Ugo Drago, Commander of 363 Squadriglia, 150 Gruppo based at Sciacca. RLM 74/75/76 scheme with German markings painted over in Grigio Azzurro Chiaro 1. Drago was one of Italy's major aces, with 17 kills to his credit, 6 of which he claimed with the Regia Aeronautica and 11 later on with the Aviazione Nazionale Repubblicana. Fasces markings above and below wings.



Bf 109G-6/R6 (Trop), 70-4 of the 70 Squadriglia, 23 Gruppo, 3 Stormo, Cerveteri, July 1943. RLM 74/75/76 scheme; areas overpainted with Grigio Azzurro Chiaro 1 on fuselage sides, fin, and underwings to conceal German markings. No fasces markings on wings; white tips under wings only; note unusual proportions of tail cross.



Bf 109G-6/R6 (Trop), 70-5 of the 70 Squadriglia, 23 Gruppo, 3 Stormo, assigned for the defense of Rome, summer 1943. RLM 74/75/76 scheme with wide bands of RLM 75 on fuselage sides instead of mottling. White wingtips and fasces under wings only. Unit badge not carried.

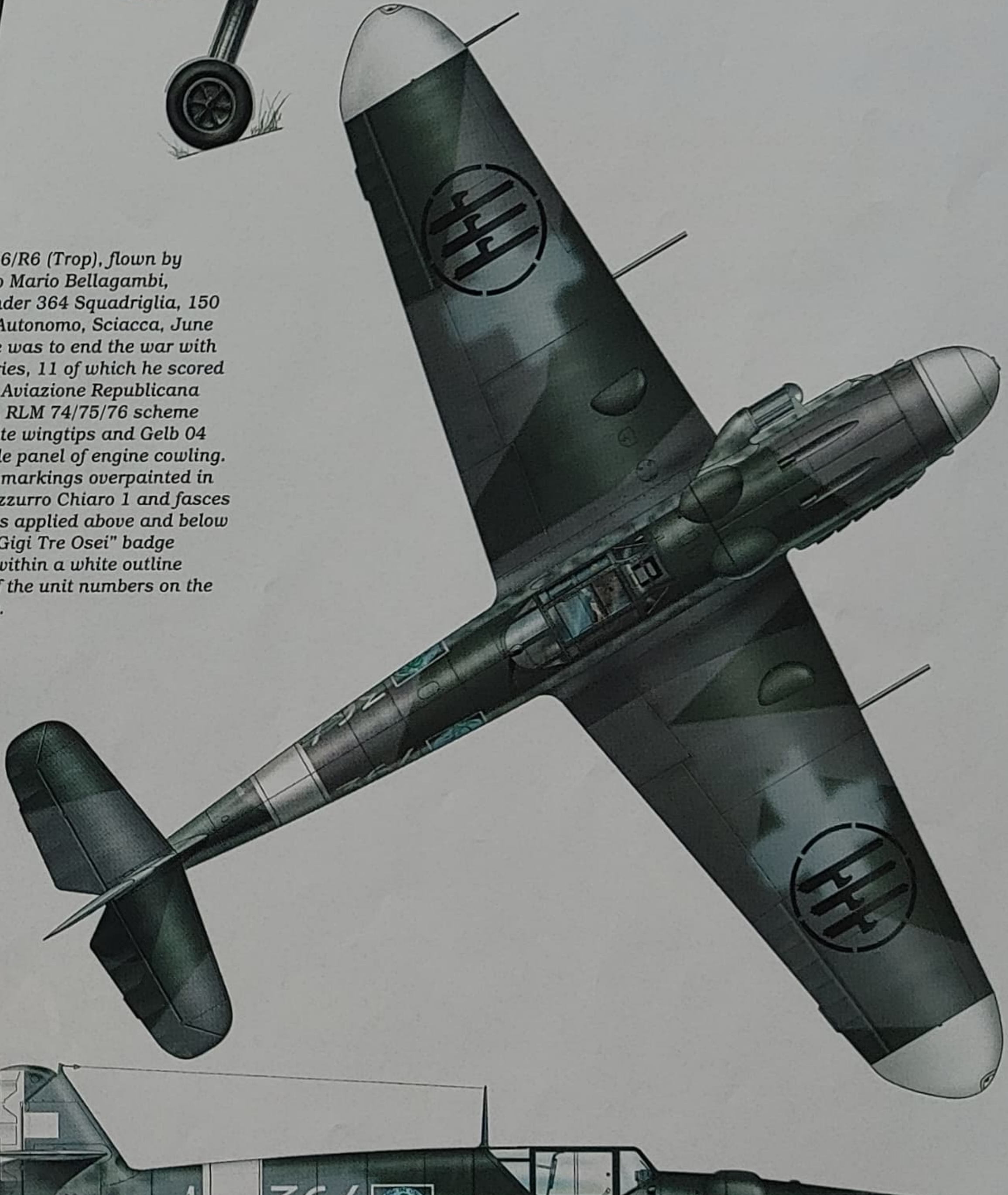


Standard badge of 3 Gruppo Autonomo, "Diavolo Rosso"

Standard badge of 23 Gruppo, "Vespa Arrabiata"

Full-color unit badge of 150 Gruppo, "Gigi Tre Osei"

Standard unit badge of 150 Gruppo, "Gigi Tre Osei"



Bf 109G-6/R6 (Trop), flown by Capitano Mario Bellagambi, Commander 364 Squadriglia, 150 Gruppo Autonomo, Sciacca, June 1943. He was to end the war with 14 victories, 11 of which he scored with the Aviazione Repubblicana Italiana. RLM 74/75/76 scheme with white wingtips and Gelb 04 underside panel of engine cowling. German markings overpainted in Grigio Azzurro Chiaro 1 and fasces markings applied above and below wings. "Gigi Tre Osei" badge carried within a white outline ahead of the unit numbers on the fuselage.

Kawanishi N1K1-J

Being a development of the N1K1 Kyofu floatplane, the Kawanishi aircraft known to the allies by the code-name "George" was one of the Imperial Japanese Navy's best weapons. These two models highlight Japanese technological progress in an effort to stem the war's inevitable result.

CHRISTOS PAPATHANASIOU

Kawanishi N1K1-Ja Shiden Type 11: Tamiya
Kawanishi N1K2-J Shidenkai: Hasegawa

Acrylic colors: AeroMaster, Gunze Sangyo
Enamels: Humbrol, Model Master
Decal solution: Gunze Sangyo
Acrylic clear: Gunze Sangyo
Aluminum foil: Bare-Metal Foil

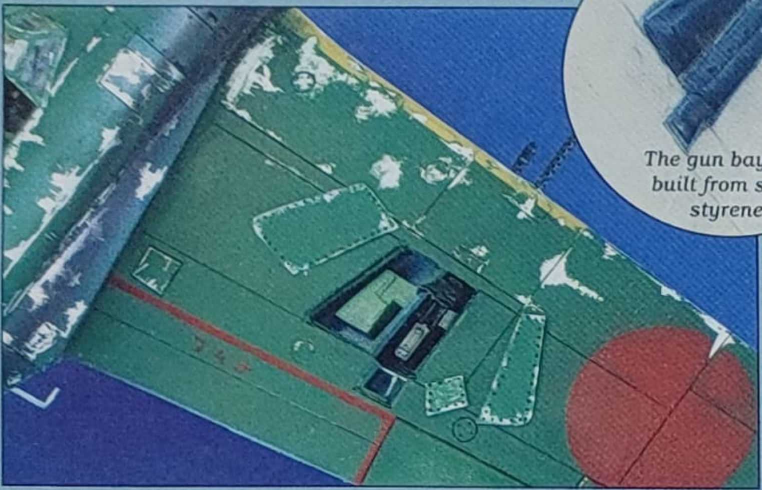
& N1K2-J George

Double Threat

Tamiya's 1/48 scale kit comprises 63 pieces in light gray polystyrene and 4 clear ones for the aircraft's canopy and sight. The parts are an excellent fit and the panel lines are very finely scribed throughout. The decal sheet contains markings for four different aircraft, two carrying a green-gray camouflage scheme and two with green uppersurfaces and unpainted natural metal undersurfaces. Unfortunately the quality of the decals is not up the standards set by the rest of the kit.

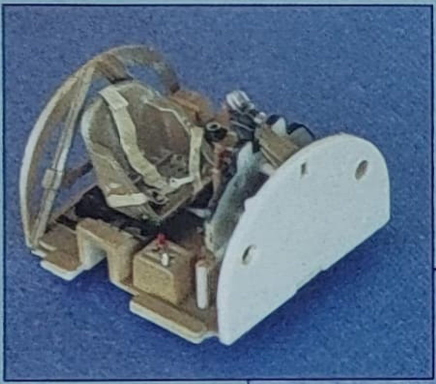
Our work started with the cockpit. The paint mix suggested for this area by Tamiya does not look bad but I opted for Gunze Sangyo Interior Green to which I added a little Olive drab (4 : 1 approx.). The instrument panel and some electrical boxes were painted matte black and the rudder pedals in aluminum. Using lighter shades of the original colors everything was drybrushed to highlight the details and paint scuffing was simulated with aluminum, especially around the seat and in places where the pilot would have stepped. Seat belts from lead sheet were added to the pilot's

The two models pictured together. The excellent weathering on the Tamiya model draws attention immediately.

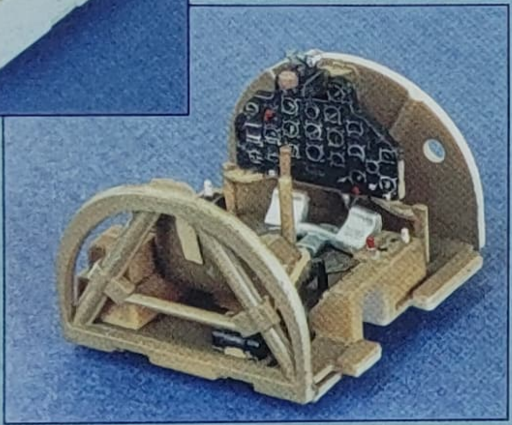


The gun bay was built from sheet styrene.

The completed gun bay and its access panels. The detailed barrels are impressive. Note the hand-painted and faded national insignia.



The pilot's seat was quite well armored compared to previous types of Japanese aircraft. The seat belts were fashioned from lead sheet.



The excellent detail provided by the Tamiya kit for the cockpit was enhanced by careful painting.

All the aircraft's markings were weathered to the same level as the rest of its finish.

seat and the control column cemented in place to complete the cockpit.

The two fuselage halves fit together perfectly and work moved on to the wings. The access panels for the machine gun and the aileron actuating jack were cut out with the help of a saw disc fitted to a power tool. The interior detail and replacement panels were fashioned from plasticard. They were first given a coat of

aluminum and then a coat of clear blue and clear green in a 4 : 1 mix to simulate the protective lacquer on the real aircraft.

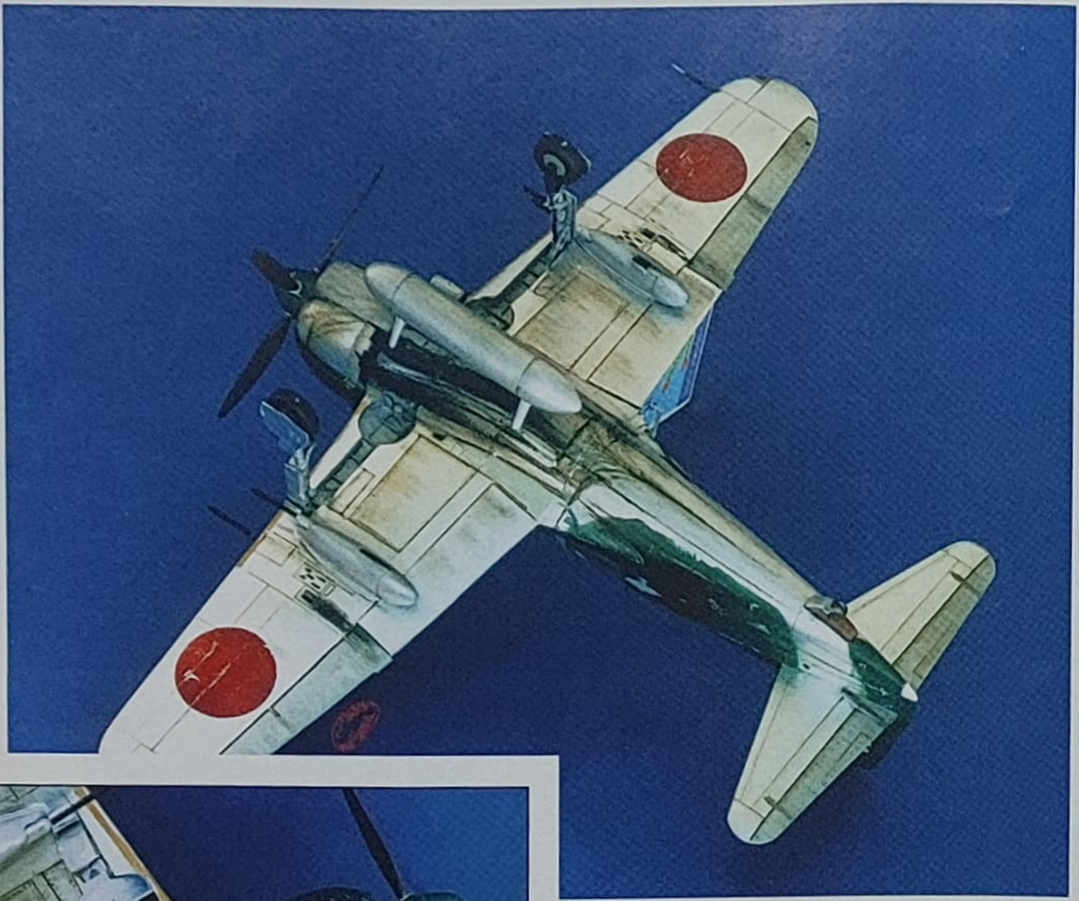
The fit of the wings and tailplanes to the fuselage was quite good and only a little filler was required on the underside where the wing's trailing edge meets the fuselage.

The engine was improved by the addition of spark-plug leads and it was painted according to the

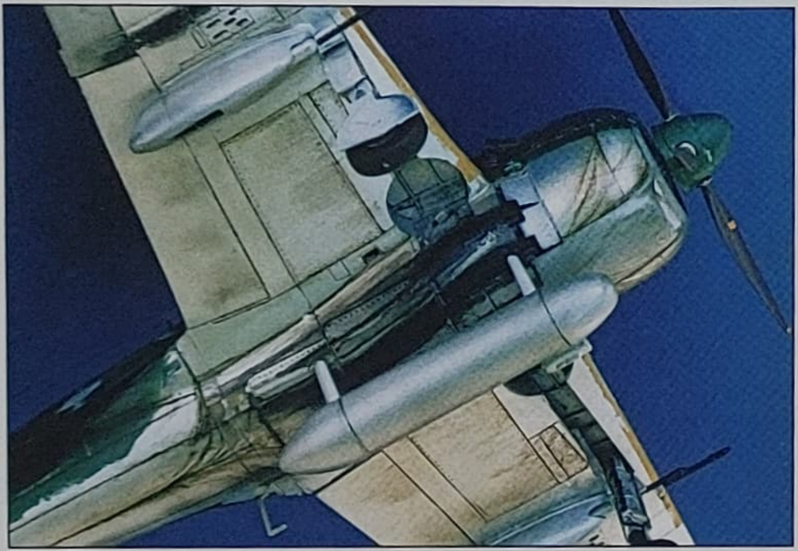
The starboard side is less worn than the port one, just as it was on the real aircraft.

The open cowl flaps, the exhaust stains, the realistic drop tank, and the leather cover of the tail-wheel well are all small details that enhance the overall picture of the model.

At eye level the Tamiya model captures the character of the real aircraft very well.



The excellent adhesion of Bare-Metal Foil to the surface enhances all its details.



Artist's oils were used to simulate smoke and leak stains on the underside of the Tamiya model.

instructions with one exception. Instead of sky the reduction gear box was painted gray. The engine cowling was enhanced by opening up its cowl flaps and adding their actuating levers using stretched sprue. The main landing gear struts were improved by drilling out the scissor links. This is a very delicate operation but adds realism to the part. The brake lines were fashioned from lead wire. The landing gear struts, doors and wells were painted aluminum and then given a wash of thinned black artist's oils to make all the detail stand out. The tires were painted in a mixture of matte black and red to simulate the tire color more accurately.

It was time to apply the color scheme and I felt that I somehow had to do something different. As I had already decided to finish the undersurface in natural metal I thought, "What better way to simulate metal than to use actual metal?" I decided to use

Bare-Metal Foil, and for some panels, normal household kitchen foil. To apply the kitchen foil the panels were sprayed with Microscale's Metal Foil Adhesive. Apart from the undersurfaces, Bare-Metal Foil was applied to the fuselage sides, the fin and some panels on the wing uppersurfaces. The key with this kind of operation is patience and planning. Areas such as wing trailing edges and wingtips that get handled a lot should be left for last.

The uppersurfaces were sprayed Kawanishi Green from Aeromaster's range of acrylic colors. The national insignia, the flap warning stripes and the IFF yellow stripes were also painted on, using masks. The only decals that were eventually used were the fin code and the aircraft data on the rear port fuselage.

I wanted to depict a really worn aircraft so using fine wet and dry paper and a modelling knife, I started removing paint from the wings and the fuselage. The port side of the fuselage was almost completely stripped this way. When I was satisfied with this process I gave the model a wash of artist's oils using mainly black and raw umber. The exhaust stains and various fluid leaks on the undersurface were simulated using an airbrush, artist's oils, and pastel chalks. To the open gun bay I added a machine gun from Aires. This is a very detailed item and I finished it in gun metal and dry-brushed in steel to make all the details stand out more. I also replaced all gun barrels with items from Aires. The ammo box was scratch built and painted light green.

True Details' Fast Frames were used for the canopy framing, painted in the appropriate color. Although the application is quite tedious the end result is worth it.

The model was completed with its final details like the drop tank, the propeller and spinner, the aerial and the navigation lights which were painted in transparent colors (red and blue).

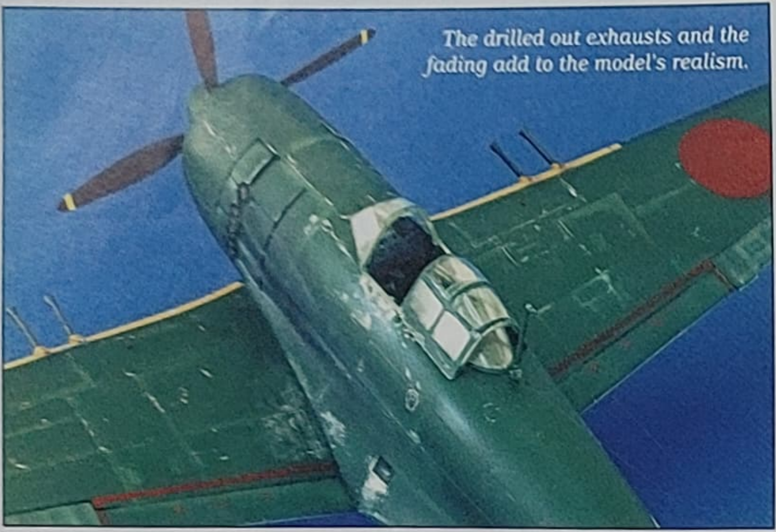
The Tamiya kit will please both the beginner and the modeler who wants a kit to build straight from the box as well as the more experienced modeler who can add his own personal touch as I did.

I would like to thank Mr. Megas Tsonos, without whose help I could not have finished the model as I did.

THE HASEGAWA KIT

This 1/48 scale kit, which has been on the market for quite a few years, comprises just 37 parts in gray and 4 in clear plastic. Despite the small

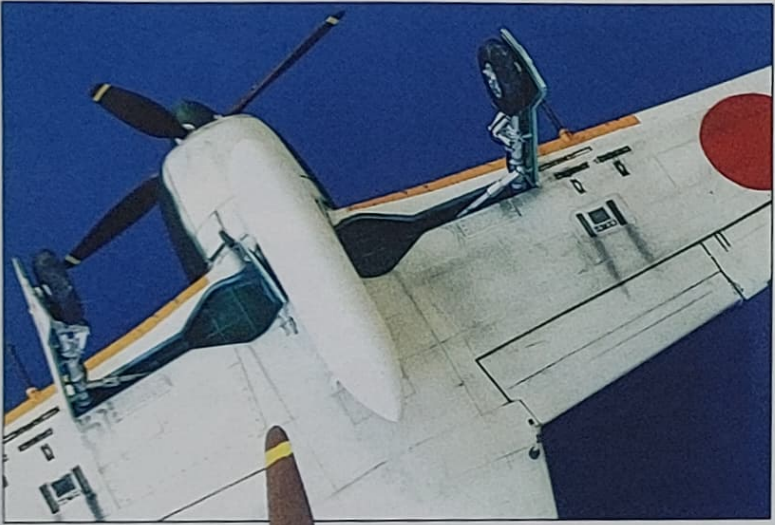
Off on another mission? Given a suitable background and a pilot, the model could easily fool the eye that it was the real thing.


The drilled out exhausts and the fading add to the model's realism.

number of parts it is very well detailed and the fit of all parts is excellent. This is just as well as the very fine raised panel lining would be obliterated if any filling and sanding was needed. The decal sheet provides markings for four aircraft.

The cockpit was painted according to the kit instructions and the only additions made were the seat belts. The clear part of the sight was replaced with one from thinner acetate. The two fuselage halves joined perfectly and work proceeded to the engine. Spark-plug leads were added and the exhausts were drilled out. The wings and tailplanes were joined to the fuselage without any problems, and the fit was perfect.

The landing-gear wells and the interior surfaces of the doors were painted in Aotake green (an odd metallic blue/green lacquer) and not black as recommended by the kit instructions. The struts were painted aluminum and brake lines were added



Most of the weathering on the Hasegawa model was done with pastel chalks, apart from the control surfaces where a wash was used to make them stand out from the rest of the wing.

The fading on the upper side of the control surfaces was achieved by the use of pastel chalks.

Although not a new model, the Hasegawa offering is very realistic.

from lead wire. The tires were then slightly pressed and bulged to simulate the aircraft's weight on them. Finally the clear parts were added and masked in preparation for the painting.

I wanted to build a scale model of an aircraft of the Yokosuka naval wing in 1945. The undersurfaces were sprayed in Gunze Sangyo's gray H-61. H-59 from the same range of colors was used for the upper surfaces and the spinner. The propeller was painted red brown. The national insignias were painted on the model using round masks cut with an Olfa circular cutter from frisket film. The kit decals were used for the fuselage national insignia since those did not fade to the same degree as the top of the wing.

The last markings to be painted on were the IFF yellow stripes on the wings' leading edges, using Gunze Sangyo's orange-yellow H-24. The few markings from the decal sheet that remained were applied with the help of decal solution. When complete the whole model was sprayed with a coat of clear flat.

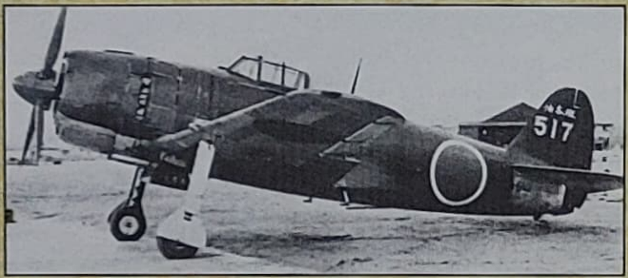
Using an airbrush set to very fine, the edges of some panels were sprayed in a lighter shade of the basic color and pastel chalks were used to simulate color fading. Special attention was paid to the fabric covered control surfaces. The underside was given a wash of dark gray and various fluid leaks as well as cordite and grease stains from the machine guns were recreated using pastel chalks. Paint chipping was simulated using aluminum and a very fine paint brush. Generally weathering was kept to a minimum as later models of the Shiden such as the N1K2 only saw service at the very end of the war. The model was completed with the addition of the aerial and the navigation lights.

Both Hasegawa and Tamiya kits are similar in quality. Both provide trouble-free assembly and potential for adding details if that is what you are looking for. ■

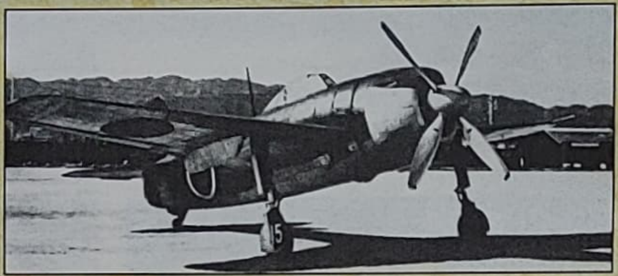
KAWANISHI'S LIGHTNING

The best way to summarize Japanese aircraft development during World War II would be "Too little, too late." Indeed the Japanese managed to build really good aircraft only near the end of the war and then in insufficient numbers. By that time the outcome was a foregone conclusion and not in Japan's favor. Such a case was the Kawanishi Shiden (Violet Lightning) which had been developed on the basis of the Kyofu floatplane into one of the best Japanese fighters. Its main features were its powerful engine, the Nakajima Homare 21, an 18-cylinder, two-row radial which produced 1,990 horsepower and its famous combat flaps. The flaps operated automatically using manometric inputs that measured the angle of attack, controlling the hydraulic actuators that extended the flaps. This device gave the aircraft unbelievable maneuverability. On the other hand, the first mid-wing version of the aircraft (N1K1-1) was plagued with drawbacks like complex construction, weak landing gear, and poor visibility. Drastic improvement was achieved with the second version (N1K2-J) which was low-wing, had a new tail and was much simpler to produce and maintain. It is worth noting that this version had 23,000 fewer parts than the previous one. However none were ready before mid-1944, total production reaching 1,440, of which around 1,000 were of the first version. Towards the end of the war, they were used mostly in Kamikaze missions.

One of the three surviving examples of the type. This N1K2-J belongs to the Aviation Museum at Dayton, Ohio in the United States.

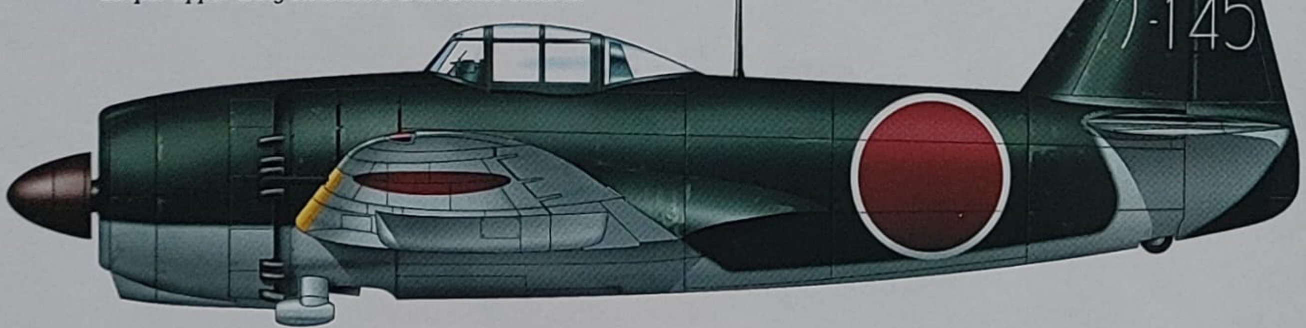


Significantly improved compared to the first version, the low wing N1K2-J saw action too late in the war to help the Japanese Navy.

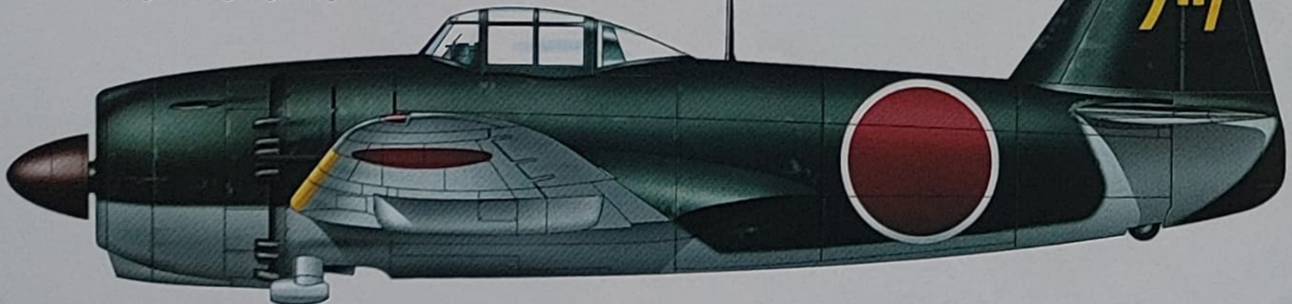


The early N1K1-1 type was a capable but complicated aircraft.

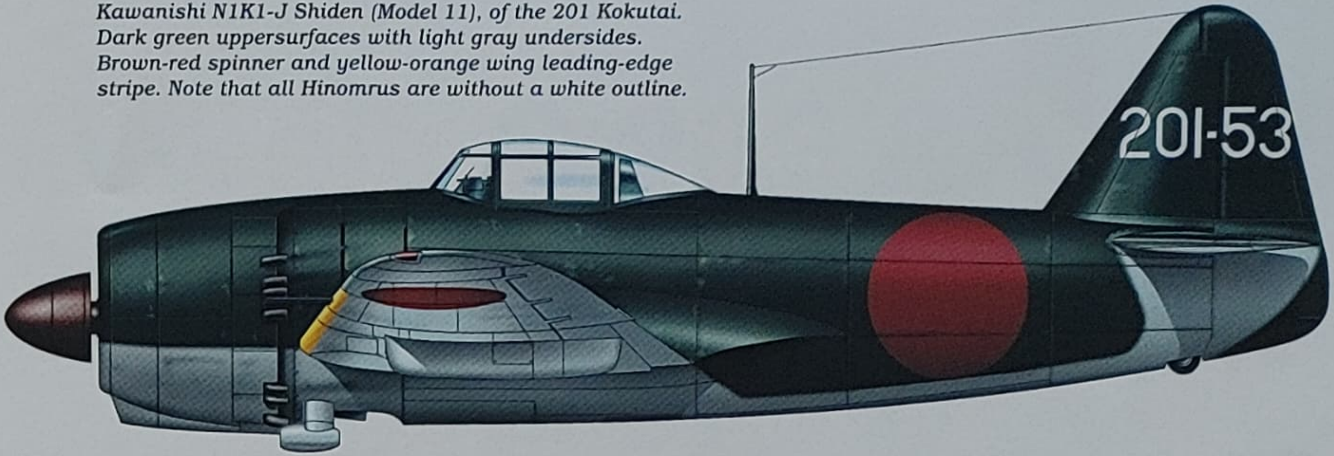
Kawanishi N1K1-J Shiden (Model 11), of the Genzan Kokutai. Dark green upper surfaces with light gray undersides. Brown-red spinner and yellow-orange wing leading-edge stripe. Upper wing Hinomaru with white outline.



Kawanishi N1K1-Ja Shiden (Model 11a) of the Tsukuba Kokutai. Dark green uppersurfaces with light gray undersides. Brown-red spinner; white-outlined Hinomaru on fuselage and upper wings. Yellow tail markings and yellow-orange wing leading-edge stripe.



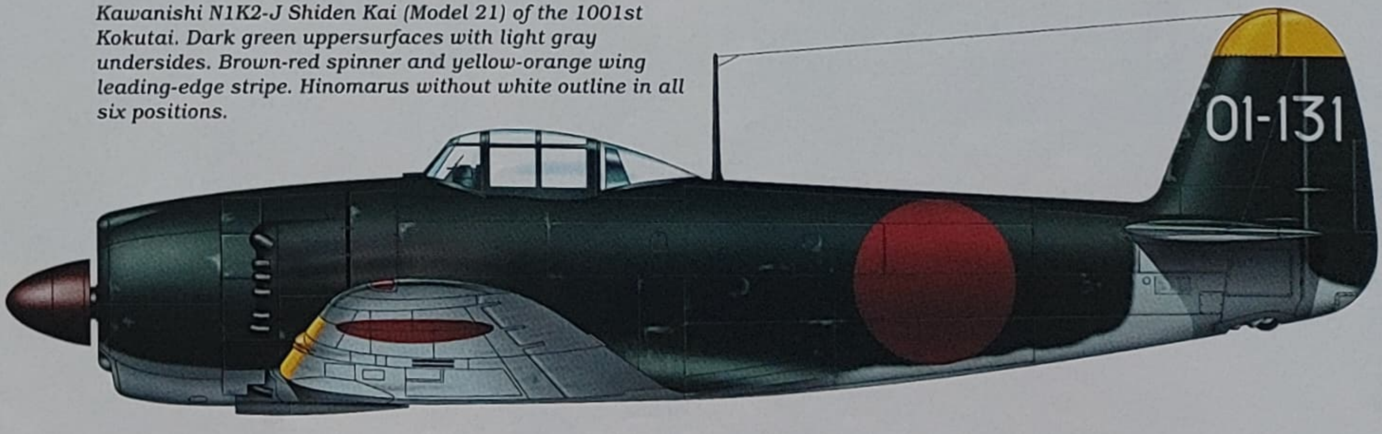
Kawanishi N1K1-J Shiden (Model 11), of the 201 Kokutai. Dark green uppersurfaces with light gray undersides. Brown-red spinner and yellow-orange wing leading-edge stripe. Note that all Hinomrus are without a white outline.

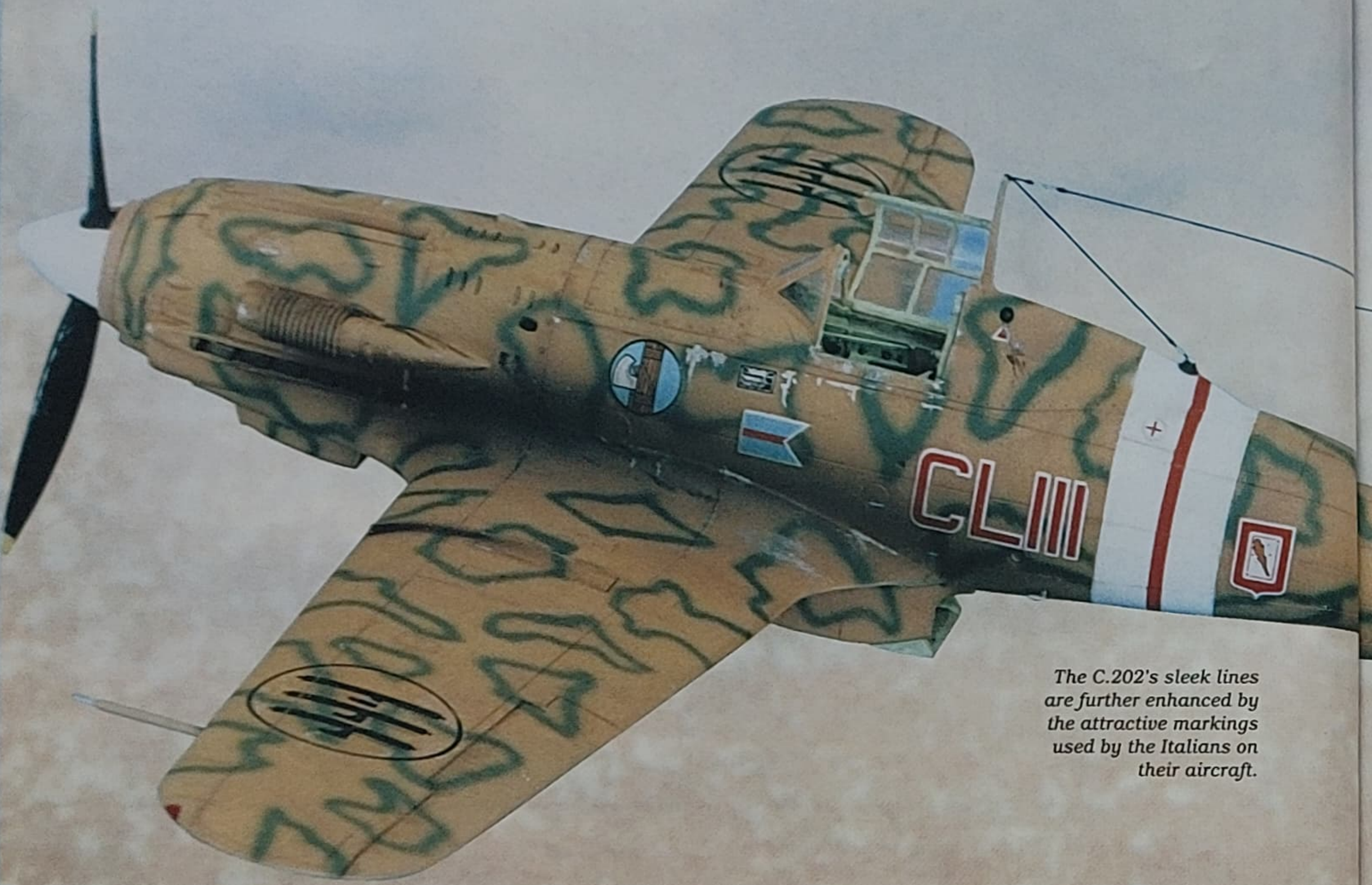


Kawanishi N1K2-J Shiden Kai (Model 21) of the Yutani-Han. Dark green uppersurfaces with light gray undersides. Brown-red spinner and yellow-orange wing leading-edge stripe. Hinomarus on upper wing have white outline.

Kawanishi N1K2-J Shiden Kai (Model 21) of the 343rd Kokutai. Dark green uppersurfaces with light gray undersides. Brown-red spinner and yellow-orange wing leading-edge stripe. Hinomarus on upper wing have white outline.

Kawanishi N1K2-J Shiden Kai (Model 21) of the 1001st Kokutai. Dark green uppersurfaces with light gray undersides. Brown-red spinner and yellow-orange wing leading-edge stripe. Hinomarus without white outline in all six positions.





The C.202's sleek lines are further enhanced by the attractive markings used by the Italians on their aircraft.

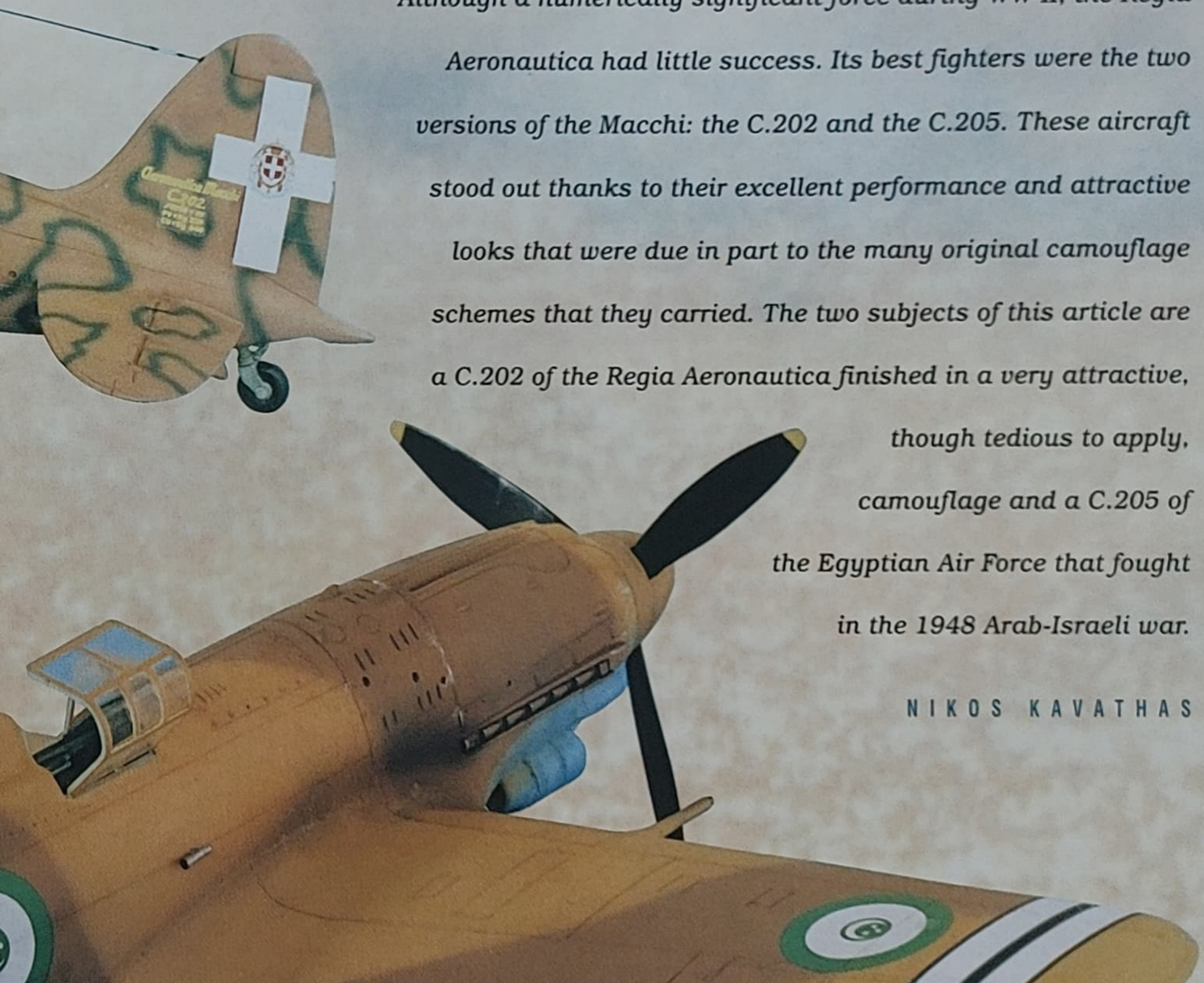
Macchi C.202 & C.205: Hasegawa

Acrylic colors: Gunze Sangyo
Enamels: Molak, Humbrol
Acrylic varnish: Tamiya
Enamel varnish: Pebeo
Decal solution: Gunze Sangyo, Microscale

Macchi C.202 & C.205
The Desert Greyhounds

Although a numerically significant force during WW II, the Regia Aeronautica had little success. Its best fighters were the two versions of the Macchi: the C.202 and the C.205. These aircraft stood out thanks to their excellent performance and attractive looks that were due in part to the many original camouflage schemes that they carried. The two subjects of this article are a C.202 of the Regia Aeronautica finished in a very attractive, though tedious to apply, camouflage and a C.205 of the Egyptian Air Force that fought in the 1948 Arab-Israeli war.

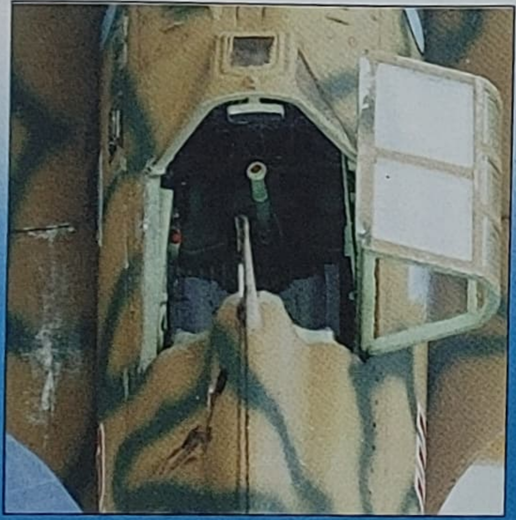
NIKOS KAVATHAS



The Egyptian markings came from an excellent quality Aeromaster decal sheet that fit perfectly.

The C.202 and C.205 were developments of the MC.200 Saetta. The hearts of these machines were their German Daimler Benz DB 601A engines. Although the fighters were excellent, their fortunes in WW II mirrored those of their Italian masters. For a modeler, the aircraft are tremendously interesting because the camouflage schemes used on Italian aircraft of the period were impressive and highly original. The kits, both 1/48 scale, came from the Hasegawa stable. Both have very finely scribed panel lines, and their detail is adequate.

The cockpits in the two aircraft are similar, and the kit parts are quite well detailed. The instrument panels are superb, and there is raised detail on both the floor and the side walls. Nevertheless, there was room for improvement. Various small details were added using styrene stock, as well as wiring and piping from solder and



Note the cockpit's rear view mirror inside the windshield and the paint chipping in all the places where the pilot trod in order to gain access.

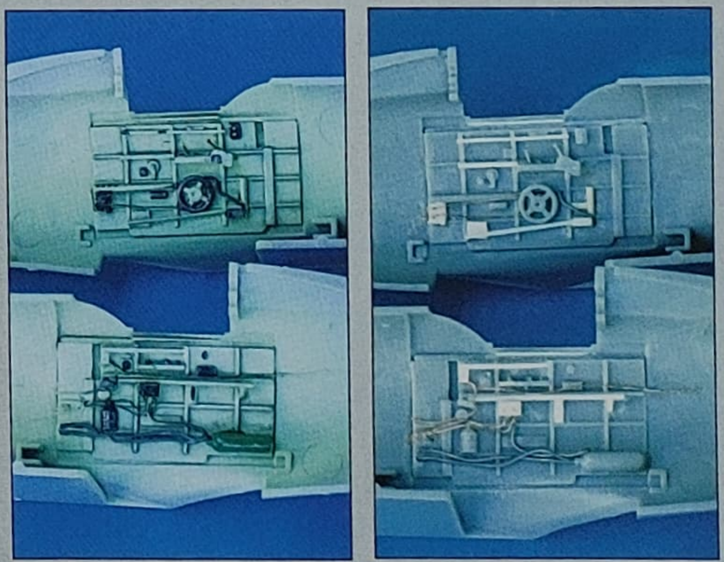
The green "squiggles" were often more elaborate on some aircraft. On this particular aircraft they were relatively well spaced and fairly regular in shape. An airbrush is essential to achieve the pattern.

The decals supplied with the C.202 kit are rather mediocre. All the markings for the aircraft were cut separately to remove excess film. The fuselage bands were painted on with an airbrush after masking.

copper wire respectively. Similar detail was added to the central part of the landing gear wells, and hydraulic lines were added to the main gear struts. The leading and trailing edges of the radiator under the fuselage were thinned for better appearance. The gun barrels on the C.205 were drilled out, and the rudder was cut and repositioned at an angle. As far as the fit of the parts is concerned, problems were encountered when mating the wings to the fuselage. Quite a bit of work with a file was needed to get the correct dihedral. A small amount of filler was also needed where the lower center wing section joins the fuselage.

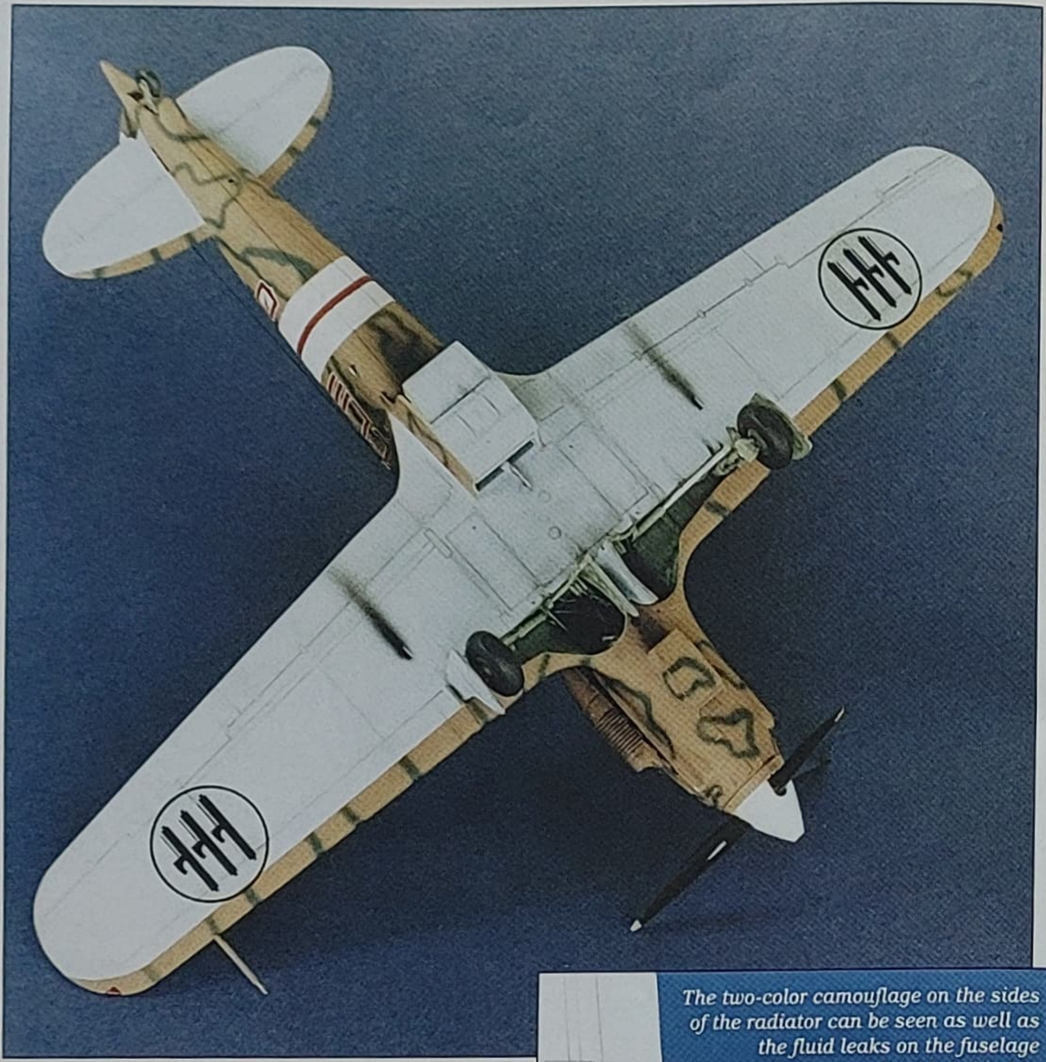
PAINTING

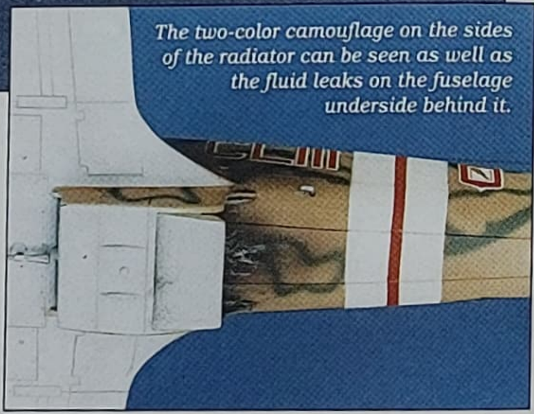
All interior surfaces in the aircraft were painted in a light lettuce green. This was basically Gunze's H50 with a little white mixed in. The instrument panel was painted black, and the pilot's seat aluminum. The tires were finished in tire black, Gunze Sangyo acrylics being used throughout. When all the details had been painted



Small details from styrene stock as well as from solder and copper wire added detail to the cockpit side walls. All aircraft interior surfaces were painted in a light lettuce green.

Here's a view of the C.202's undersurfaces. Note how the top surface camouflage wraps around the fuselage and extends on to the wings' leading edge undersides.





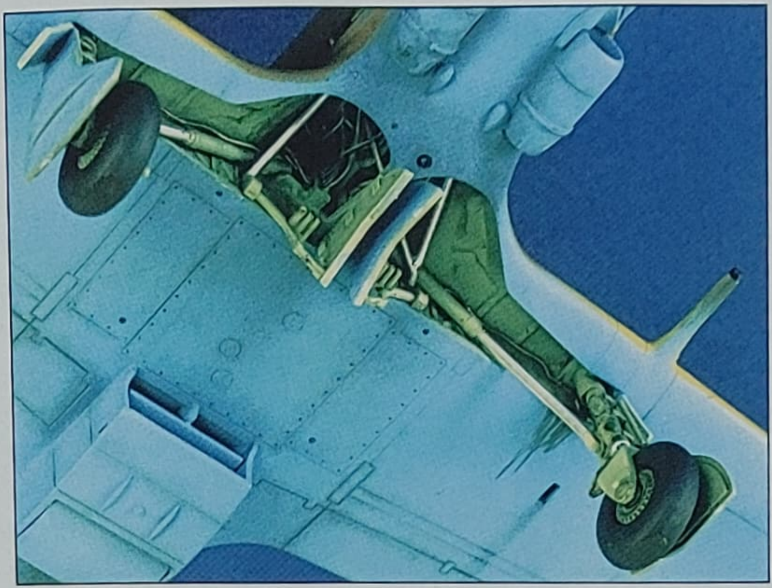
The two-color camouflage on the sides of the radiator can be seen as well as the fluid leaks on the fuselage underside behind it.

and the colors had thoroughly dried, everything was first given a wash of black to make all the detail stand out, and then it was dry-brushed with aluminum in order to give the cockpit and landing gear a weathered look.

It was finally time to apply the camouflage schemes. The Egyptian C.205 was finished in the same colors used by the RAF in the North African desert campaign in WW II. The undersurfaces were sprayed in Molak's Azure Blue LB-13. The top surfaces were camouflaged in Gunze's dark earth H72 and middle stone H71.

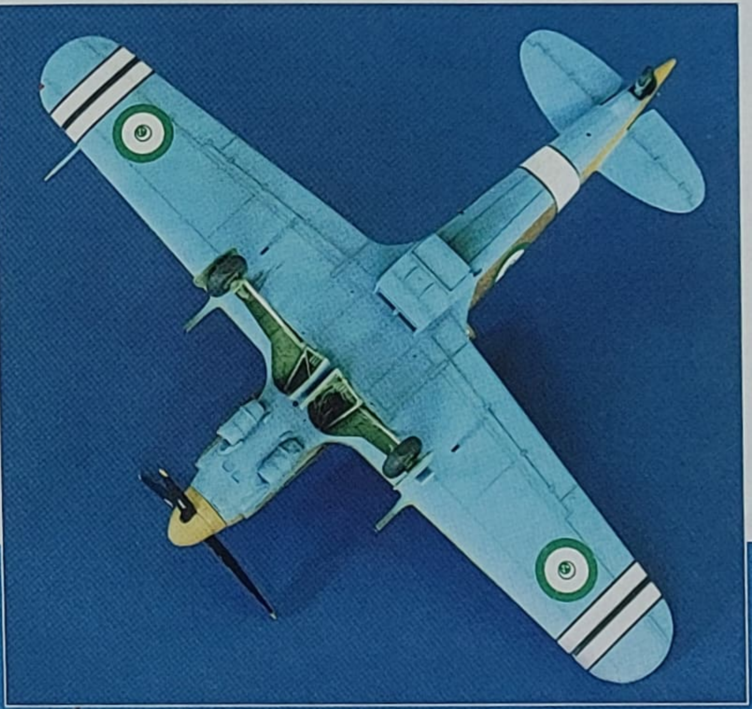
The colors used for the C.202 were mixed specifically for this purpose. For the undersurfaces, Gunze H67 with a little H45 added to it was used. For the tan on the top surfaces, I used H66 to which I added a little yellow and a little white. This color covered the underside of the fuselage and the leading edges of the wings. On top of this I applied the camouflage pattern, which was fairly typical for aircraft of this type. The color used for the "outlined splotches" was Gunze's H302. Before applying this, the tan surface was given a coat of Pebeo flat enamel varnish. This was a safety measure in case something went wrong during the application of the green camouflage patterns (and many things did in actual fact go wrong!), as I would be able to remove the green without damaging the tan. The pattern is quite tedious to apply and a good-quality airbrush is an absolute must, along with lots of patience. The painting of the camouflage pattern took two days of work to finish.

The decals offered with the Egyptian aircraft were made by Aeromaster. They were of superb quality and fit perfectly. The ones that came with the C.202 were made by Cartograf and were a bit more troublesome. Even though there was very little film around the markings, the decals were quite stiff and failed to follow the model's surface detail faithfully. Gunze and Microscale decal solutions were of little help, so a preliminary coat of gloss varnish was absolutely necessary. Another



The additional detailing work carried out in the main gear wells can be seen here. The details in the central part are mostly ancillary equipment and wiring, and piping was added behind the engine.

The left main gear strut. The hydraulic lines can be seen as well as the bulged tire that simulates the aircraft's weight. The edges of the intakes under the nose were sanded to achieve a better scale thickness.



The finished C.205's undersurfaces.

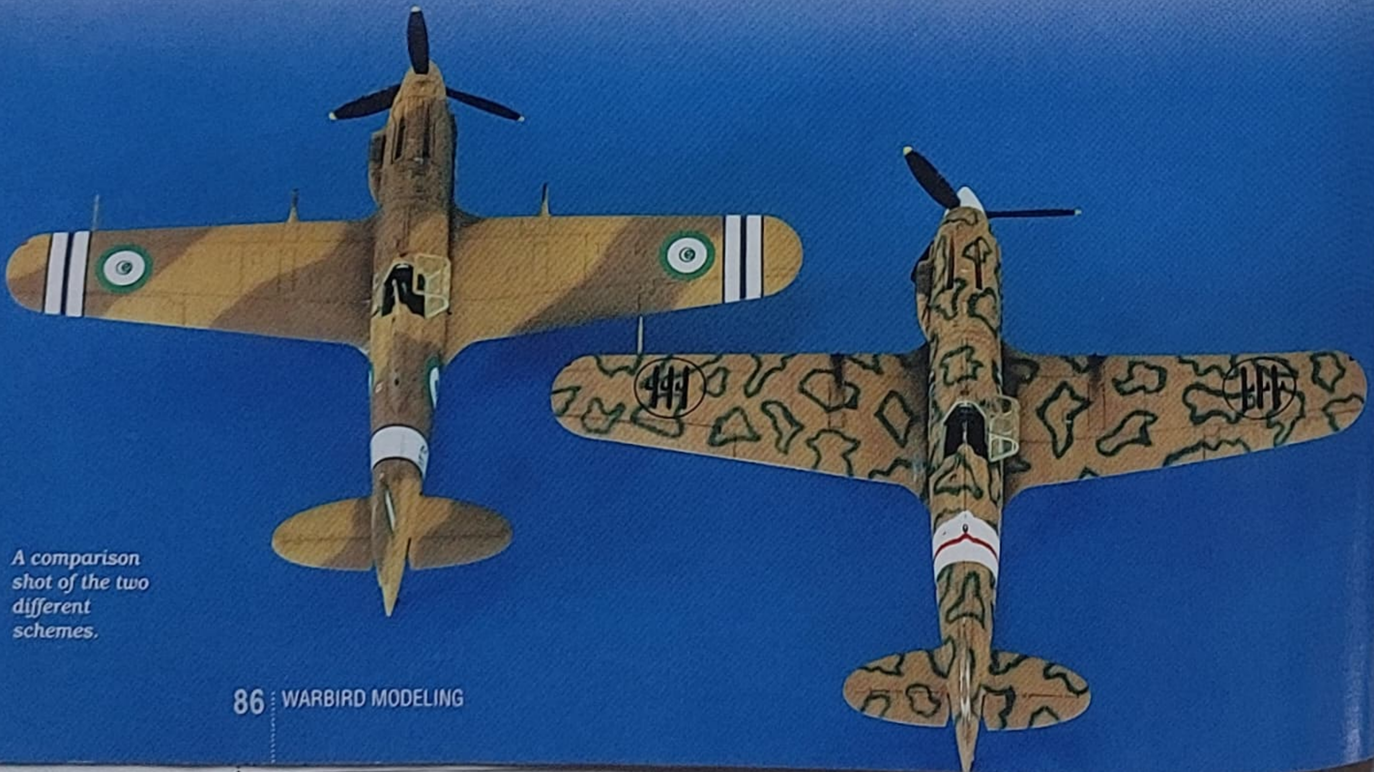
This particular C.205 could very easily be mistaken for a British aircraft if it weren't for the Egyptian national insignia. The camouflage scheme is the same as the one used by the RAF in North Africa during WW II.

Weathering on this aircraft was kept to a minimum because photos of the real one showed it to be in good condition.

tip: Don't leave the decals in the water any longer than is necessary in order to avoid removing their adhesive. The white tail band on the aircraft was eventually sprayed onto the model after the area was masked off, as the relevant decal would not fit properly.

Once all the decals had dried thoroughly, both models were given a coat of Tamiya flat acrylic varnish. I had already started the weathering process before applying the markings by fading the colors. Now the models were given a wash of black to accentuate the panel lining and paint chipping was simulated in some places using aluminum. Gunze's oil was used to replicate fluid leaks around the engine and landing gear, as well as behind the oil coolers. The final additions to the models were the aerial masts and their propellers.

Looking at the finished models, one cannot help admiring the sleek lines that characterized so many Italian aircraft designs. With the exception of the decals, Hasegawa's very good kits caused few problems that could not be overcome. They certainly whet my appetite for building more versions of these aircraft in the future.

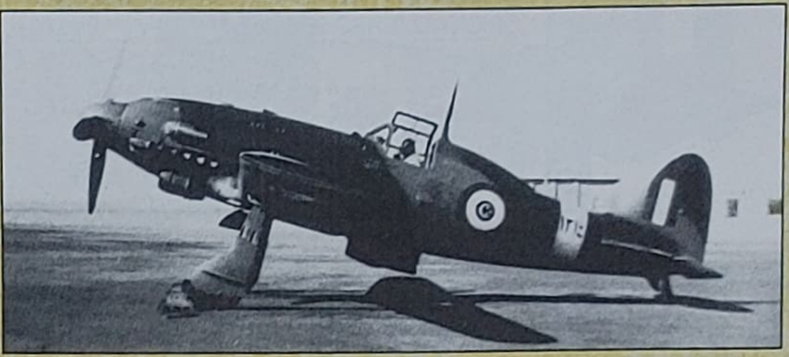


A comparison shot of the two different schemes.

THE MACCHI IN THE REGIA AERONAUTICA AND THE ROYAL EGYPTIAN AIR FORCE

The Macchi was designed by Mario Castoldi. It was based on a previous design of his, the MC.200 Saetta, which had been unveiled in 1937. The C.202 Folgore made its maiden flight on August 10, 1940 powered by a DB 601A 1,175 hp engine. This, of course, was of German origin and had already achieved fame by powering the very well-known Bf 109. The new fighter retained all of the Saetta's agility and excellent flying characteristics, coupled with outstanding performance and sturdy construction. Its main armament consisted of two 12.7mm machine guns above the engine and one 7.7mm machine gun in each wing. The aircraft's flight characteristics were the main reason for its holding its own against the American P-40 and British Hurricane in the skies over North Africa, although this fact had no effect on the eventual outcome of the war in this particular theatre. In total, 1,500 C.202s were manufactured, some equipped with 20mm cannon. The C.205V (Veltro) was to follow, equipped with a more powerful 1,475 hp engine, which gave it even better performance. Only 262 of this type were manufactured before the appearance of the C.205N Orione. The prototypes of this type had just made their first flights when the Italian armistice with the Allies was signed in 1943. The Macchi served in other air forces as well as the Regia Aeronautica. One of them was the Egyptian Air Force, which used them in the 1948 war against Israel. 25 C.205Vs were delivered, 16 of them being converted C.202s. Some of these were powered by the stronger DB 605 engine, their superior performance setting them apart from the rest. Their delivery to Egypt was slow and plagued by problems, some caused by Israeli agents who raided the factory in Italy. The Egyptians used the aircraft quite successfully, although the Macchis did not have an impact on the final outcome of the conflict. The ones that survived went on to become trainers.

As far as modelers are concerned, the main issue here is the camouflage scheme used on Egyptian Macchis. Most aircraft were delivered from Italy finished in an overall tan color. The Egyptians repainted the undersurfaces of some aircraft with azure blue paint left over from British WW II stocks. It is quite probable that some aircraft received dark earth camouflage patterns over the Italian tan. Some aircraft were finished completely in British colors, like the subject of the main article. There have been claims that certain aircraft were delivered from Italy in an overall natural metal finish, but that has not been substantiated. This is briefly the history of one of the most attractive and unrecognized fighters to emerge from WW II.



A Macchi MC.205 V in Egyptian markings as it was used in the 1948 war against Israel. It is finished in the same camouflage scheme as the one used by the RAF in North Africa during WW II (Photo. E. Thomason).

A Veltro in Sardinia in the summer of 1940. Note the heavy exhaust stain which reaches all the way to the white fuselage band.

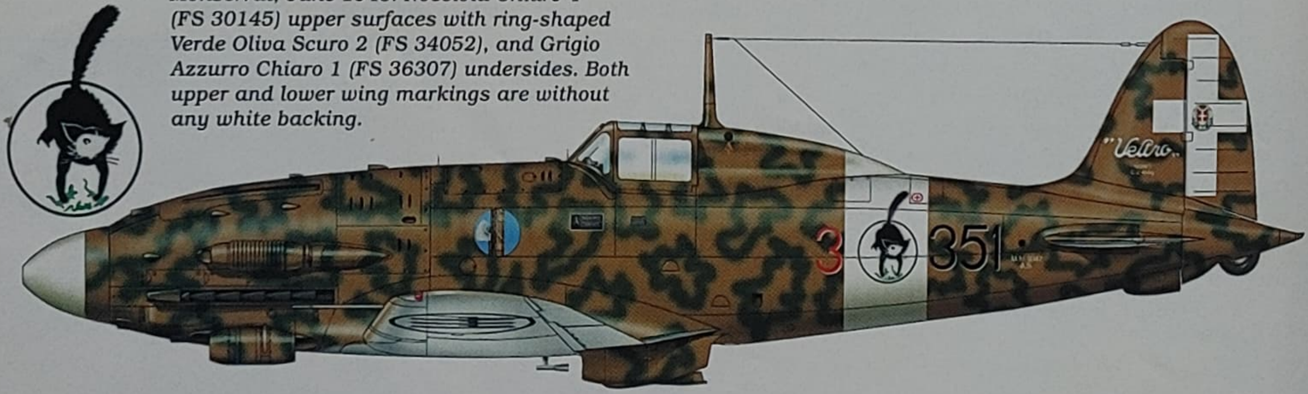
A close-up of a C.202. Note the manner in which the camouflage pattern has been applied, quite densely on this particular machine.

Photo of the Folgore that Nikos Kavathas modeled. The green patterns are quite well spaced.

REGIA AERONAUTICA COLOR CHART

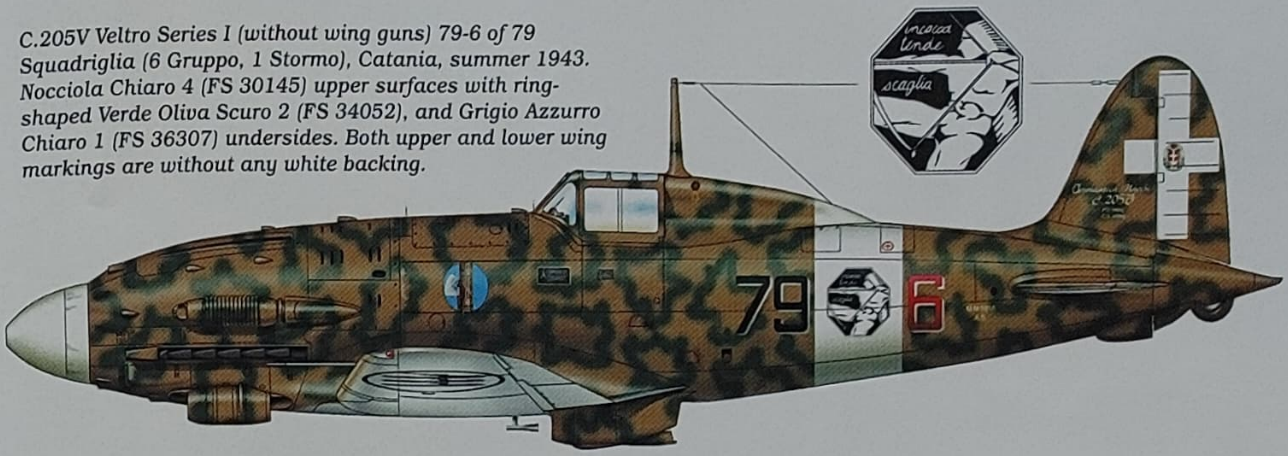
COLOR	TRANSLATION	FS NUMBER
COLORI FIAT Pre-1941		
GIALLO MIMETICO	Camo. yellow	23594
VERDE MIMETICO	Camo. green	34258
MARRONE MIMETICO	Camo. brown	30219
GRIGIO MIMETICO	Camo. gray	36314
GRIGIO AZZURRO SCURO 3	Dark blue gray	36373
ALUMINIO	Silver	17178
On most pre-war aircraft, the underside color was silver. Later it was a light blue gray similar to 36307		
1940 ARSON SISI		
VERDE MIMETICO	Camo. green	34108
MARRONE MIMETICO	Camo. brown	30219
NOCCIOLA CHIARO	Light tan	30257/30266
1940 MAX-MEYER		
GIALLO MIMETICO	Camo. yellow	35457
MARRONE MIMETICO	Camo. brown	35964
VERDE MIMETICO	Camo. green	35365
TAVOLA 'X'		
1 GRIGIO AZZURRO CHIARO	Light blue gray	36307
2 VERDE OLIVA	Olive green	34086
3 GRIGIO AZZURRO SCURO	Dark blue gray	36076
4 NOCCIOLA CHIARO	Light tan	30219
5 BIANCO AVORIO	Ivory white	33711
6 BIANCO NEVE	Snow white	1(2)7886
7 GIALLO CROMO	Ident yellow	1(1)3655/1(2)3538
8 ROSSO	Ident red	1(2)1302
9 VERDE	Ident green	1(2)4090
10 BRUNO	Brown	30045/30108
11 AZZURRO	Blue	25053/25056
12 NERO	Black	34087
13 ALUMINIO	Aluminum	17178

C.205V Veltro Series I (without wing guns), MM.9347/351-3, 351 Squadriglia (51 Gruppo), Monserrat, June 1943. Nocciola Chiaro 4 (FS 30145) upper surfaces with ring-shaped Verde Oliva Scuro 2 (FS 34052), and Grigio Azzurro Chiaro 1 (FS 36307) undersides. Both upper and lower wing markings are without any white backing.

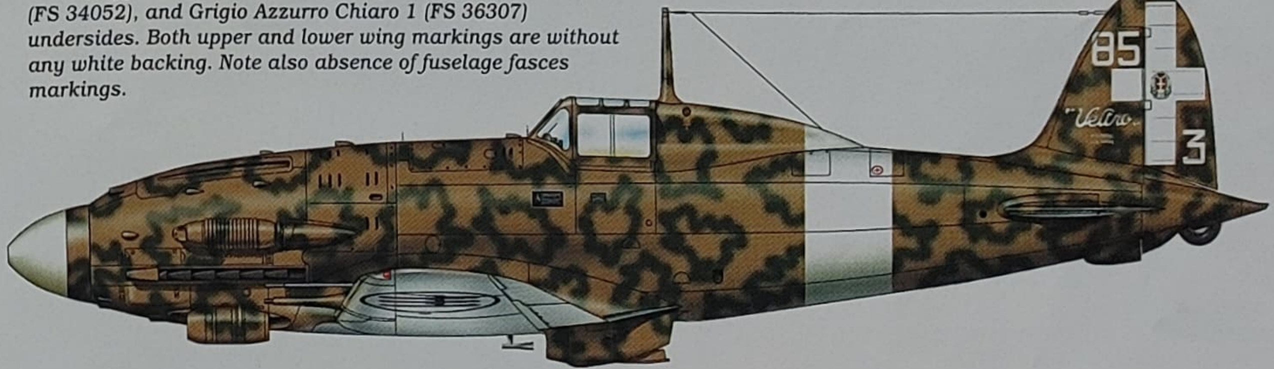


C.205V Veltro 155-4 of the 155 Squadriglia (51 Stormo), Italian Co-Belligerent Air Force, Lecce-Galatina, autumn 1944. Nocciola Chiaro 4 (FS 30145) upper surfaces with ring-shaped Verde Oliva Scuro 2 (FS 34052), and Grigio Azzurro Chiaro 1 (FS 36307) undersides. Red, white and green roundels in the standard six positions.

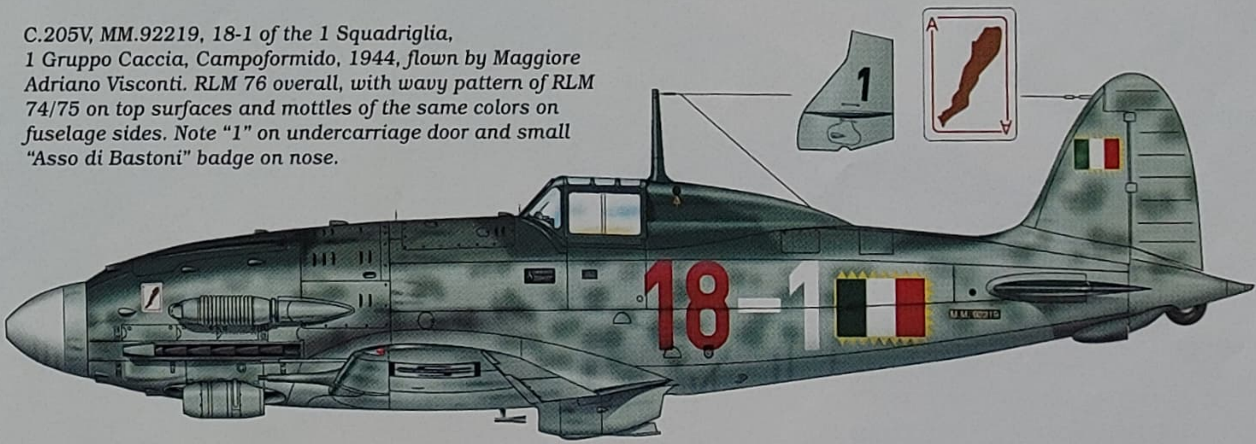
C.205V Veltro Series I (without wing guns) 79-6 of 79 Squadriglia (6 Gruppo, 1 Stormo), Catania, summer 1943. Nocciola Chiaro 4 (FS 30145) upper surfaces with ring-shaped Verde Oliva Scuro 2 (FS 34052), and Grigio Azzurro Chiaro 1 (FS 36307) undersides. Both upper and lower wing markings are without any white backing.



C.205V Veltro Series III 85-3 of 85 Squadriglia (18 Gruppo, 2 Stormo), Cerveteri, late Summer 1943. Nocciola Chiaro 4 (FS 30145) upper surfaces with ring-shaped Verde Oliva Scuro 2 (FS 34052), and Grigio Azzurro Chiaro 1 (FS 36307) undersides. Both upper and lower wing markings are without any white backing. Note also absence of fuselage fasces markings.



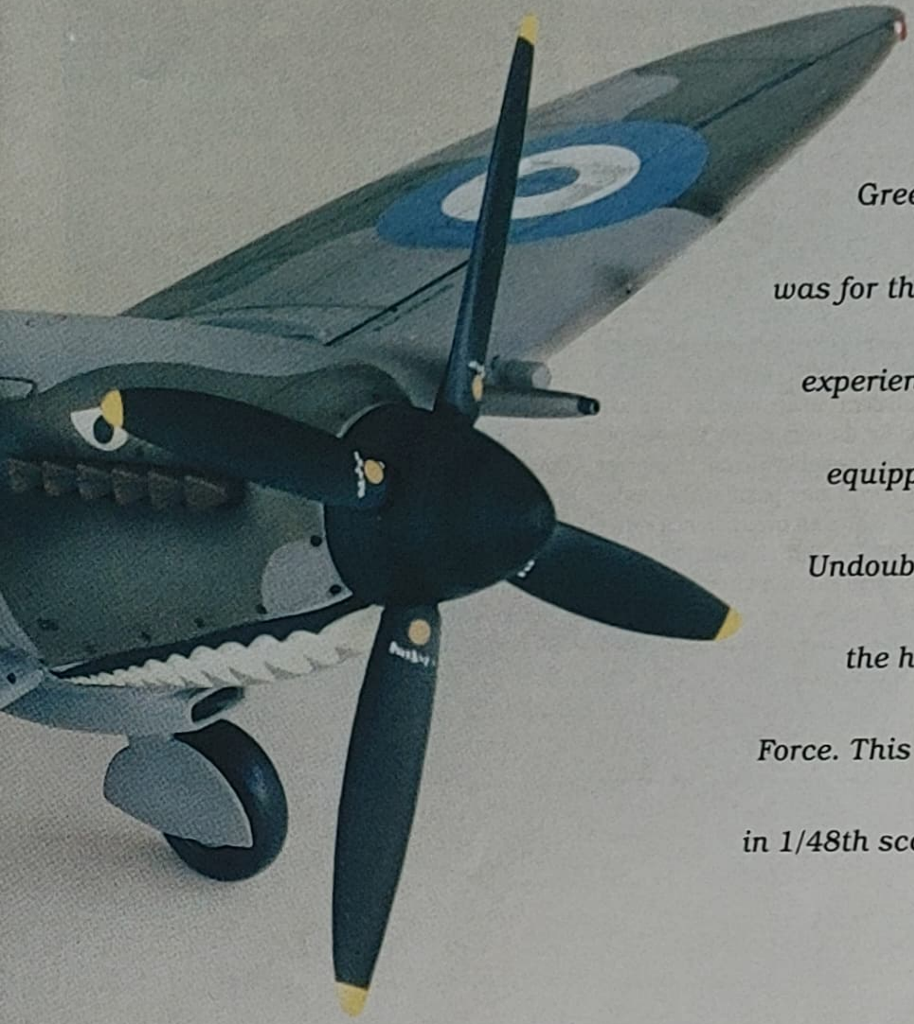
C.205V, MM.92219, 18-1 of the 1 Squadriglia, 1 Gruppo Caccia, Campoformido, 1944, flown by Maggiore Adriano Visconti. RLM 76 overall, with wavy pattern of RLM 74/75 on top surfaces and mottles of the same colors on fuselage sides. Note "1" on undercarriage door and small "Asso di Bastoni" badge on nose.



C.205V Veltro 2-3 of the 3 Squadriglia, 1 Gruppo Caccia, Aviazione Nazionale Repubblicana, Campoformido, 1944. RLM 76 overall, with wavy pattern of RLM 74/75 on top surfaces and mottles of the same colors on fuselage sides. Wing markings consisting of a box with two fasces (right) are black on the undersides and white above the wings. Note marking on undercarriage door and small "Arciere" badge on nose.

Supermarine Spitfire Mk IXc

A celebrity in Greek hands



"Spitfires at last!" cried the Greek pilots as they received what was for them a dream come true, having experienced the misery of being under-equipped in the North African desert. Undoubtedly the Spitfire was a star in the history of the Royal Hellenic Air Force. This legend can now be reproduced in 1/48th scale by combining the Ocidental and Tamiya kits.

PAVLOS TSEKAS

With the help of the Tamiya kit, and some careful finishing, the Ocidental kit can be turned into an accurate replica of the Spitfire Mk IXc.

Spitfire Mk IXe: Ocidental
Spitfire Mk Vb: Tamiya

Photoetched parts: Eduard
Acrylic colors: Gunze Sangyo
Enamels: Humbrol
Enamel varnish: Xtracolor
Artist's oil colors: Winsor & Newton
Decal solution: Gunze Sangyo

The Spitfire Mk IX was without a doubt the most significant aircraft in the post war years. Not only was this the case during its combat career in the Greek Civil War, but also later on, when it served to train Royal Hellenic Air Force pilots. At the same time it is one of the most beautiful aircraft of all time.

Ocidental's kit is the only one of this mark available in 1/48th scale. Both its dimensions and details are a faithful reproduction of the real Mk IX. However, its interior detail and many smaller items, such as the landing gear, are somewhat disappointing. This was the main reason for using a large number of parts from the Tamiya kit.

CONSTRUCTION

Beginning with the cockpit, I used Tamiya parts that fit the Ocidental fuselage perfectly. There are few differences between a Mk V and a Mk IX cockpit. The sidewalls were improved with photoetched brass parts from the Eduard detail set (No. 48-100), and wiring was made from solder. The instrument panel got the same treatment, and the seat was detailed with the addition of seat belts.

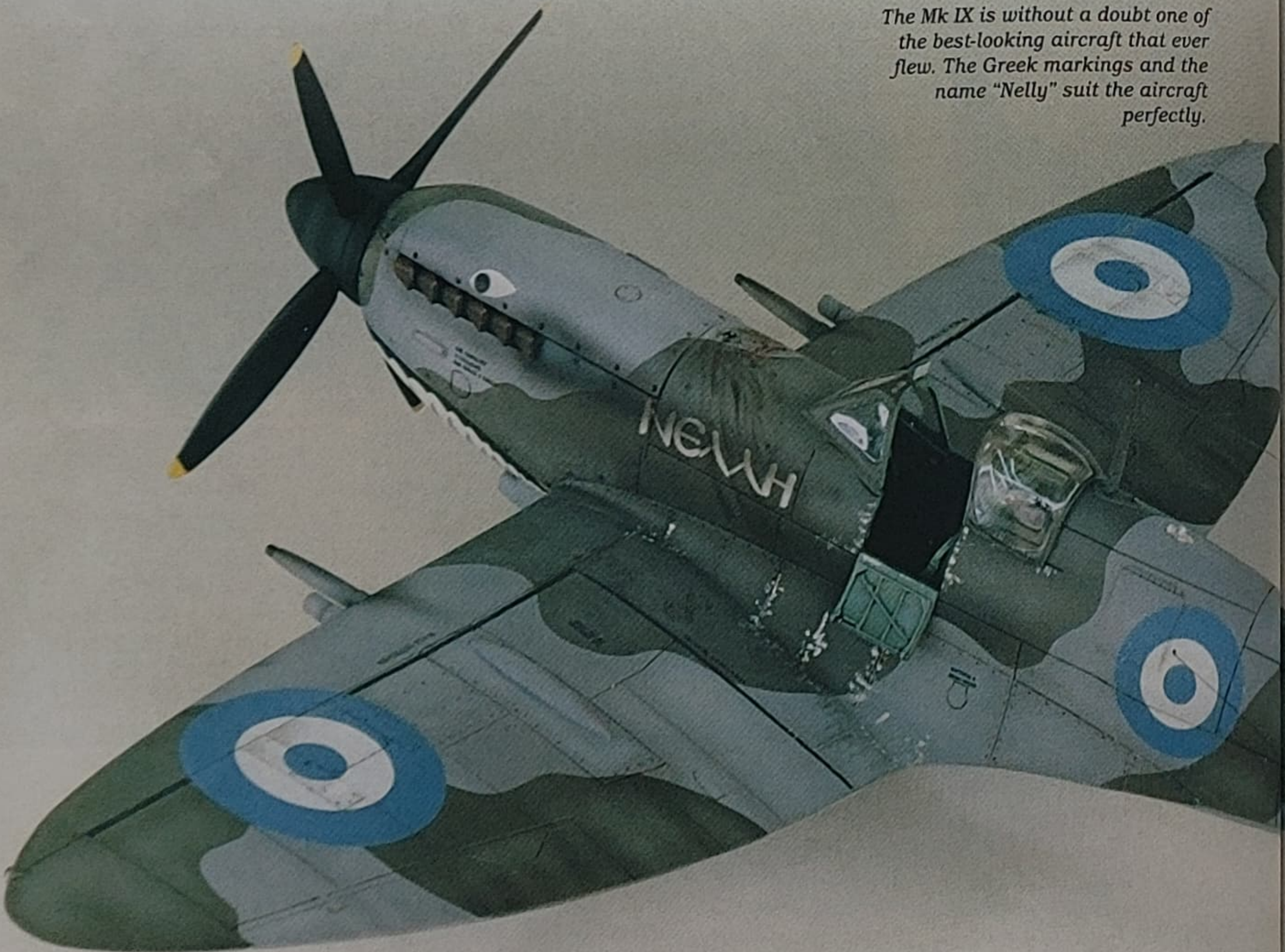
The cockpit interior was finished in RAF interior green. For the model I chose Gunze

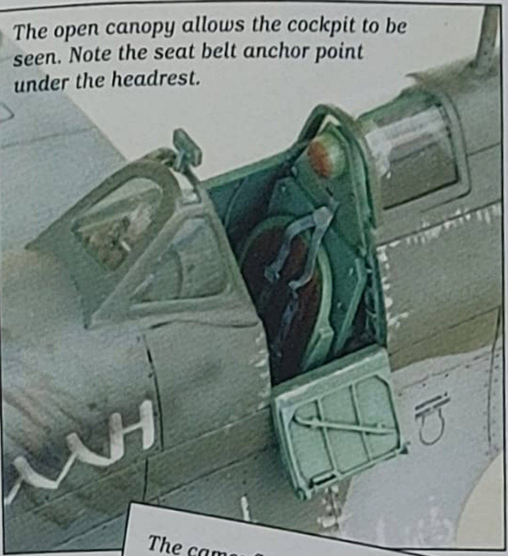
Sangyo H319 light green. By adding a few drops of yellow and white, slightly different shades were produced and used to paint the various cockpit components. The top half of the instrument panel, the throttle controls, and the gun sight were finished in matte black. Various smaller details such as dials and knobs were picked out in grey, white, and red. Humbrol No. 62 was used for the wiring and No. 186 for the pilot's seat cushion and headrest. The seat belts were painted gray. To accentuate all this detail, the cockpit was given a wash of brown artist's oil colors, and the details were dry-brushed with shades of gray.

The fuselage halves went together without problems. The part for the engine (No. 29) was not used, and the exhaust assembly was cut lengthwise and left aside to be added after painting the model. For the canopy, the Tamiya kit transparencies were used as they are thinner and clearer. The aerial mast and tail wheel were also used from this kit as they are of superior quality. The wings were next and a lot more work was needed here as they had to be converted to the type C with type B armament. Following plans of the real Mk IX, certain missing panel lines and rivets were scribed into the surface. The fairings on the gun bay access panels were removed. New ones were made from plasticard and fitted farther inboard. The gun barrels were swapped so the Hispano 20mm cannons were inboard of the machine guns. The shell cartridge ejection chutes were opened up on the wing underside and the .50-cal. machine gun barrels themselves were drilled out. Fairings were added to the machine gun access panels and the flaps re-scribed as the ones provided by the kit are too narrow. Finally the wingtips were added from putty.

When the wings were attached to the fuselage, I found out that there was a 1mm-wide gap, which had to be filled with plasticard and epoxy putty. The engine air intake also presented problems in mating up with the fuselage, which required copious amounts of Milliput to rectify. The final additions were the rudder and tailplanes. While attaching them, I took care to achieve the correct

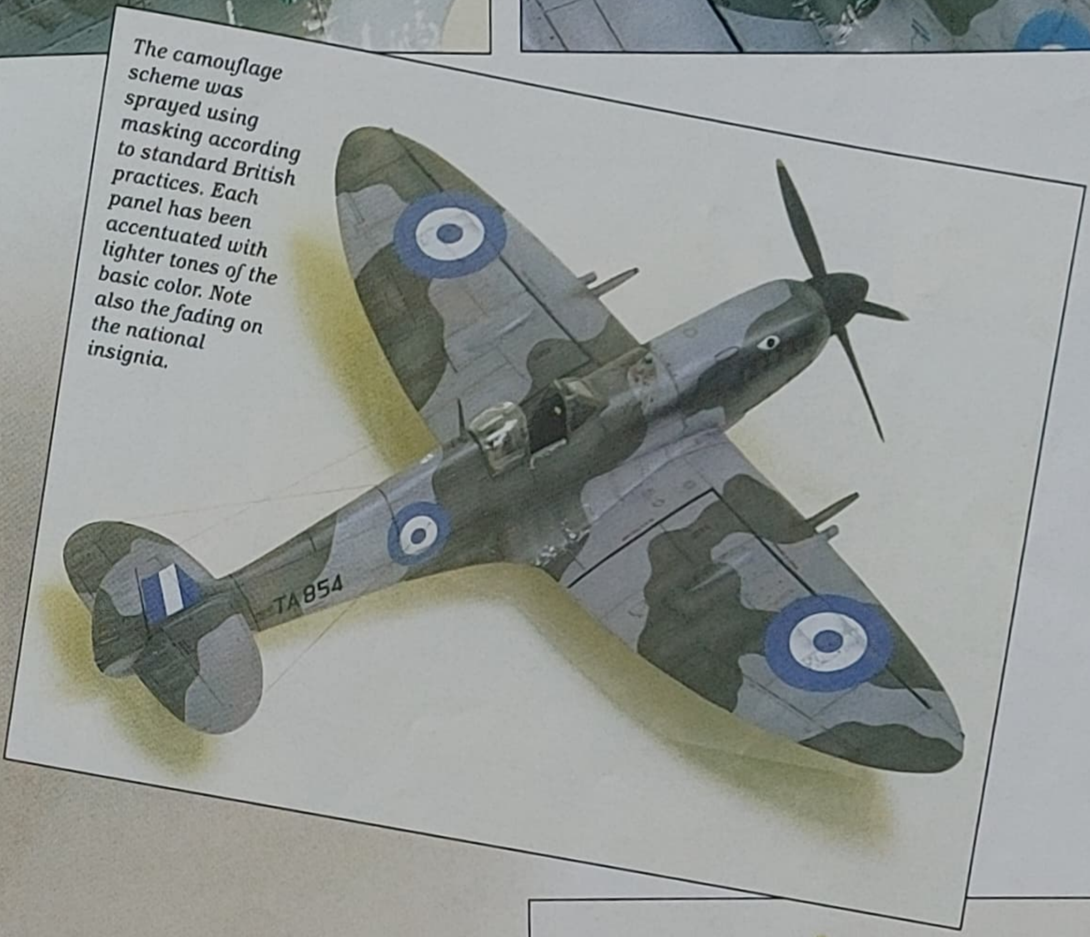
The Mk IX is without a doubt one of the best-looking aircraft that ever flew. The Greek markings and the name "Nelly" suit the aircraft perfectly.



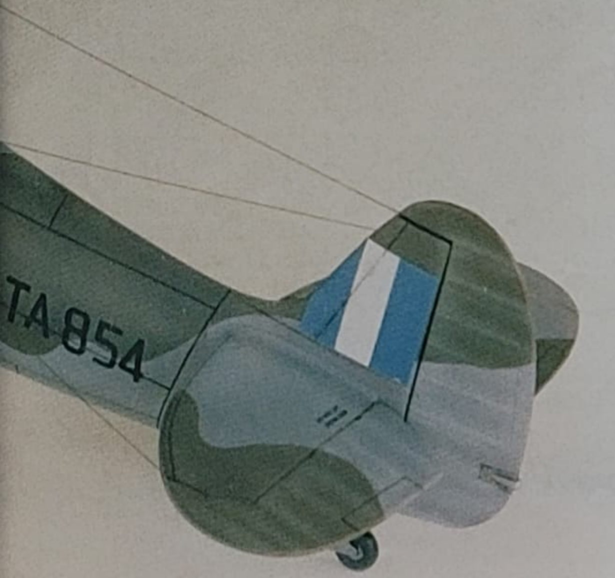


The open canopy allows the cockpit to be seen. Note the seat belt anchor point under the headrest.

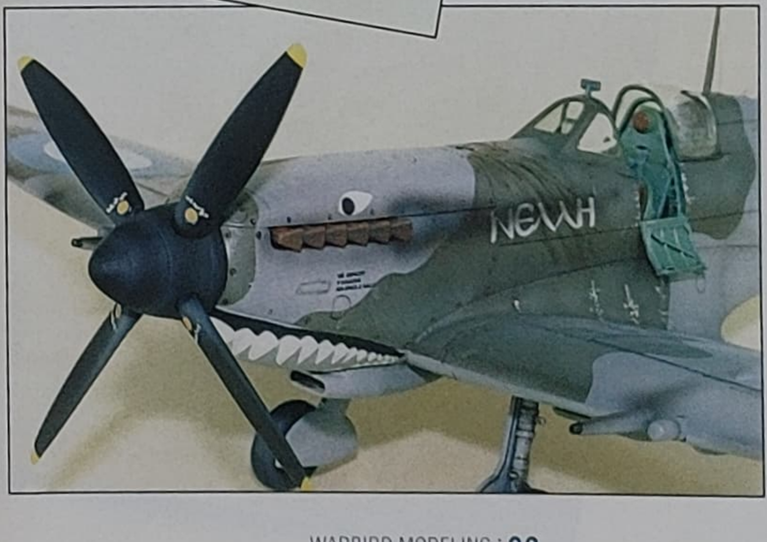
Another view of the cockpit. Tamiya parts were used here. Note the paint chipping revealing the metal underneath, and the exhaust stains as well as the fuel stains around the filling port, the latter being typical on Spitfires.

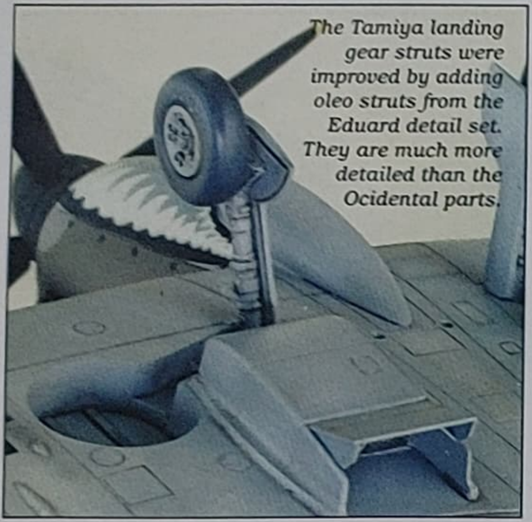


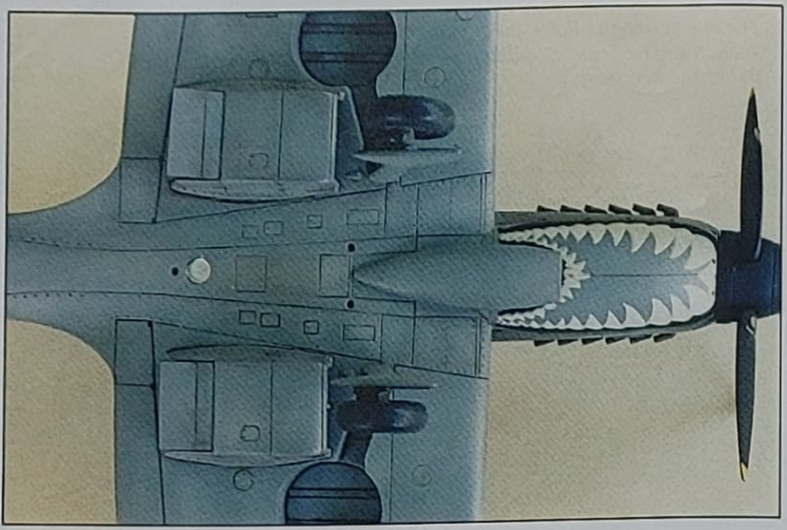
The camouflage scheme was sprayed using masking according to standard British practices. Each panel has been accentuated with lighter tones of the basic color. Note also the fading on the national insignia.



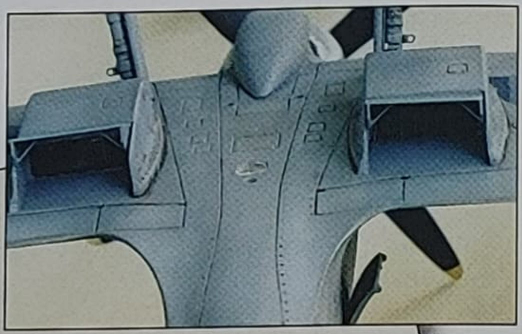
Note the exhaust color and the weathering on the propeller.

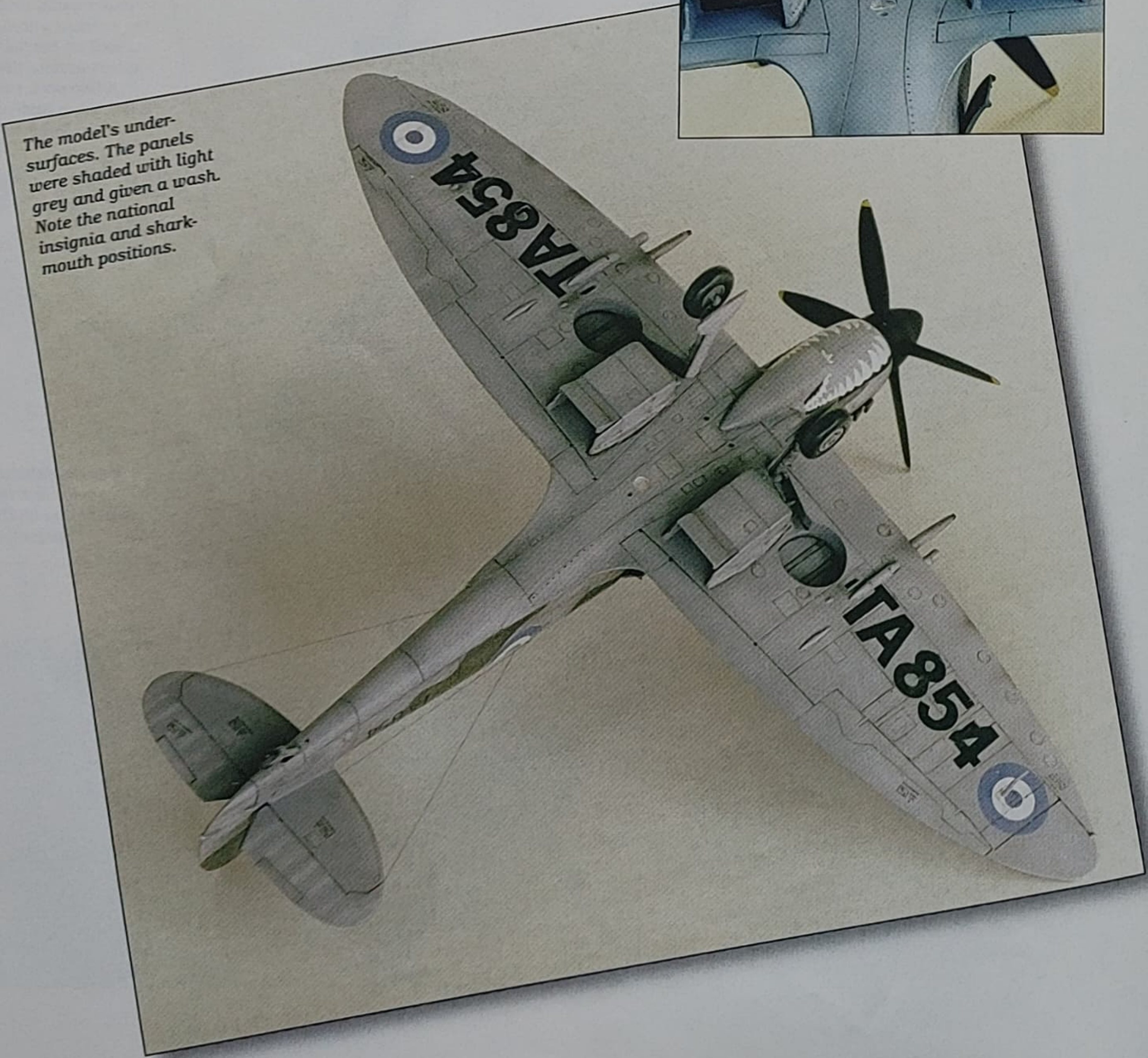



The Tamiya landing gear struts were improved by adding oleo struts from the Eduard detail set. They are much more detailed than the Ocidental parts.

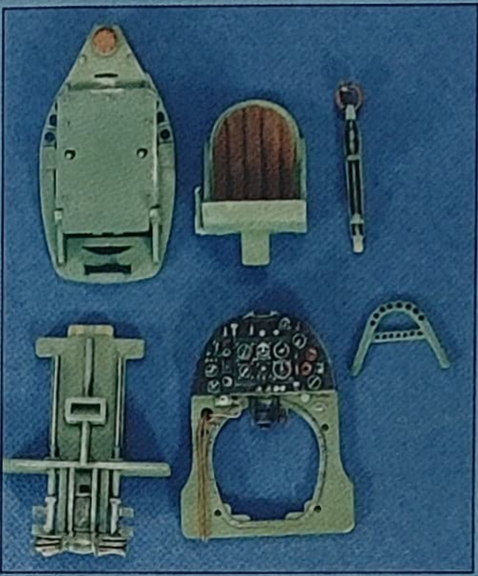


The oil coolers require quite a bit of work. The mesh is from Eduard and the fins were scratchbuilt from plasticard.

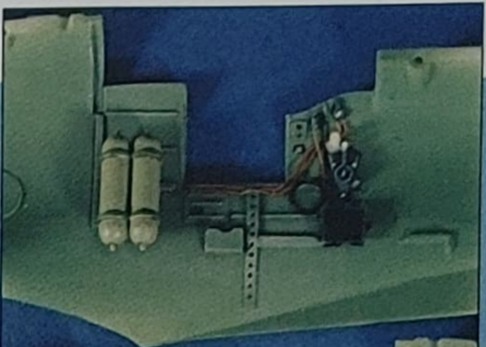


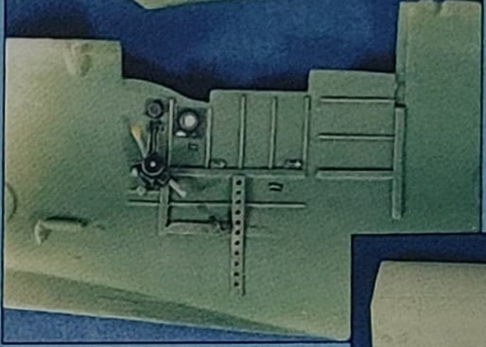


The model's undersurfaces. The panels were shaded with light grey and given a wash. Note the national insignia and sharkmouth positions.

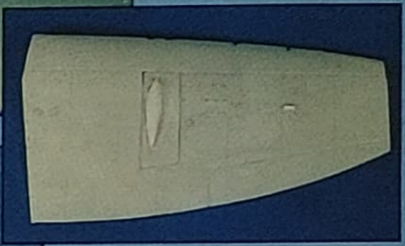


The Tamiya cockpit parts. The rudder pedals are from the photoetched detail set. The instrument panel was also improved with minor details. The dials on the latter were picked out with a fine paintbrush and... lots of patience.

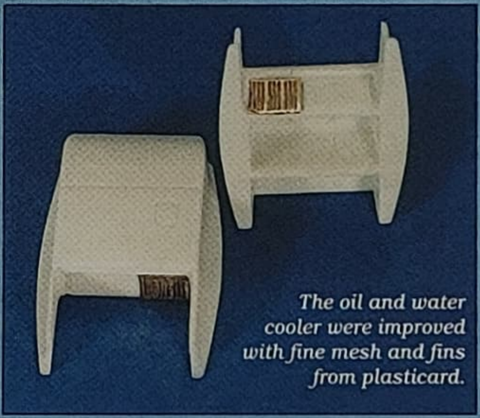




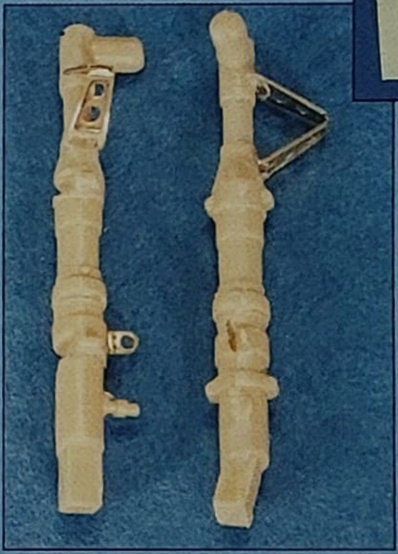
The fuselage interior was detailed with parts from both Tamiya and Eduard and carefully painted. The weathering in this area was very restrained.



The wings were converted extensively. Based on plans, new panel lines were scribed and scores of rivets added. The fairings were fabricated from plasticard and the gun barrels drilled out.



The oil and water cooler were improved with fine mesh and fins from plasticard.



The Tamiya landing gear and wheels. The wells and fairings are finished in the under-surface color.

dihedral. The completed model was then washed and, when dry, was prepared for painting.

PAINTING AND FINAL DETAILS

The typical color scheme for Spitfires of the period is the "Temperate land scheme" consisting of dark green, ocean grey, and dark sea grey. The camouflage pattern is the British type A, which was applied to the aircraft using masking. The aircraft's under surfaces were painted first using Gunze H335. After masking the top surface pattern of dark green H73, dark sea grey H75 was sprayed on. Following this, several panels were sprayed with a lighter shade of the original color to which 20% white had been added to simulate fading due to sunlight.

It was time to apply the markings. The aircraft chosen was *"Nelly,"* a shark-mouthed Spitfire Mk IXc, serial No. TA 854. The markings came from the Hellenic decal sheet, which unfortunately is not so easy to obtain these days. The decals were applied using Gunze decal solution, and they fit perfectly. A few small details in the shark-mouth were touched up with a fine paintbrush. The final touch was a wash of raw umber for the finished model before spraying it with a coat of Xtracolor matte varnish.

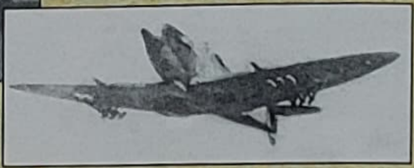
The propeller and spinner were painted matte black and the propeller tips yellow. The landing gear struts, wheel hubs, wheel-well doors, and the wells themselves were all painted in the under-surface color. The exhausts were painted in shades of brown, and the exhaust stains were simulated by spraying grey and black.

The result fully justified the work involved and faithfully reproduced one of the RHAF's legendary aircraft. ■

THE SPITFIRE IN ROYAL HELLENIC AIR FORCE SERVICE (EBA)

A Spitfire Mk IX at Larissa in 1948. The aircraft is finished in Scheme B camouflage with very hard demarcation lines. Note the national insignia's shade and the weathering around the cockpit and engine. (Photo: IPMS Greece).

A rocket-equipped Mk IXe. Its code, TA 836, is applied to the wing undersurfaces, and the national insignias are placed very close to the wingtips. (Photo: IPMS Greece)



Greek interest in the "best fighter" of its period was expressed quite early on. On August 14th, 1938, Greece placed an order for 24 aircraft, which were not delivered. Upon the outbreak of WWII, all war material being manufactured by British industry at the time was commandeered for use by the British armed forces. Greek pilots had to be patient for four years before they finally got the chance to fly the "dream." 336 Sq. received this Spitfire Mk V on October 12th, 1943 at the base at Sidi Barrani. 335 Pursuit Sq. was next to receive the Mk Vs, on December 28th, 1943. These aircraft flew a wide variety of missions in the Middle East and the Mediterranean. In September 1944 both squadrons were transferred to Nuova in Italy where they were part of the Balkan Air Force, flying missions over Yugoslavia. The Spitfires officially arrived in Greece on November 14th, 1944. However the war for the aging Mk Vbs and Vcs was not over yet. 335 and 336 Sqs flew missions against German positions on Milos and Crete, while the even greater test of the Civil War was yet to come. In January 1947 the first Mk IXs started arriving from RAF stocks. These equipped 335, 336 and the new 337 sq. The older Mk Vs continued to be used as trainers in the Flying School Sq., at Tatoi. The Mk IXs were used for the ground-attack mission, strafing and bombing targets. Two years later, in January 1949, Mk XVIs were delivered from RAF stocks and entered service with the three above-mentioned squadrons. The aircraft were finally taken out of service in 1954 after serving in a combat training squadron. The RHAF received 107 Mk Vb/c, 121 Mk IXc/e, 65 MkXVIe, and one photo-reconnaissance PR MkXI aircraft.

Spitfire Mk.IXc, A-CD of N° 331 Squadron, Royal Norwegian Air Force. dark green (FS. 34079) and ocean grey (FS. 36125) upper surfaces with medium sea grey (FS. 36270) undersides. National markings in the standard six positions with the rear end of the triangle always facing rear.

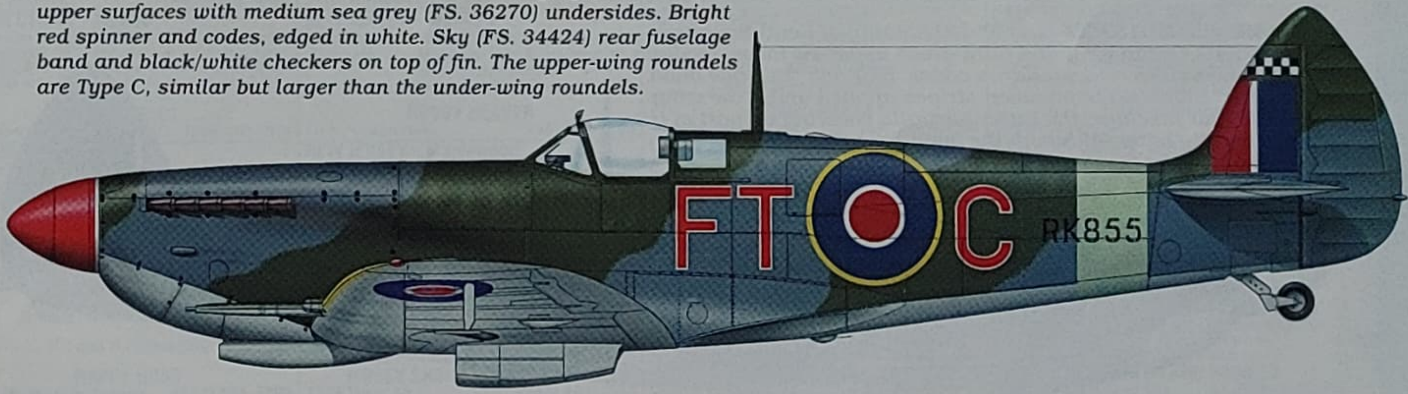
Spitfire Mk.IXc (clipped wing), MJ642/3W-11, of N° 322 Squadron, Royal Netherlands East Indies Air Force. Aluminum overall with black spinner and anti-dazzle panel. Red rudder tip with white "11." National markings in the standard six positions; on the wings, the white segment always faces the trailing edges.

Supermarine Spitfire Mk IXc

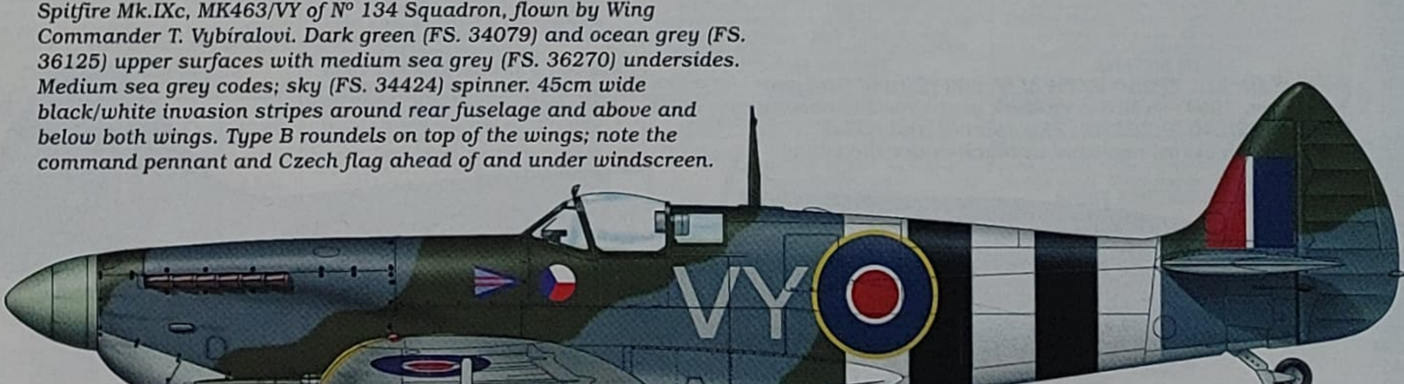
Spitfire Mk.IXc EN199/D-V from Nº 1435 Squadron, Brindisi (Italy), 1944. Dark green (FS. 34079) and ocean grey (FS. 36125) upper surfaces with medium sea grey (FS. 36270) undersides. Codes are medium sea grey; spinner is red with a thin white backing. No under-wing roundels; upper-wing roundels Type B. This aircraft is now preserved at the Malta Aviation Museum.

Spitfire Mk.IXc, EN315/ZX-6, OC Polish Fighting Team, attached to Nº 145 Squadron, flown by fighter ace Squadron Leader Stomislaw Skalski (five kills). Dark earth (FS. 30118) and mid stone (FS. 30266) upper surfaces with azure blue (FS. 35231) undersides. Red spinner, red codes outlined in white; note Polish flag (reversed) and five white swastikas under the windscreen. Upper-wing roundel is Type B.

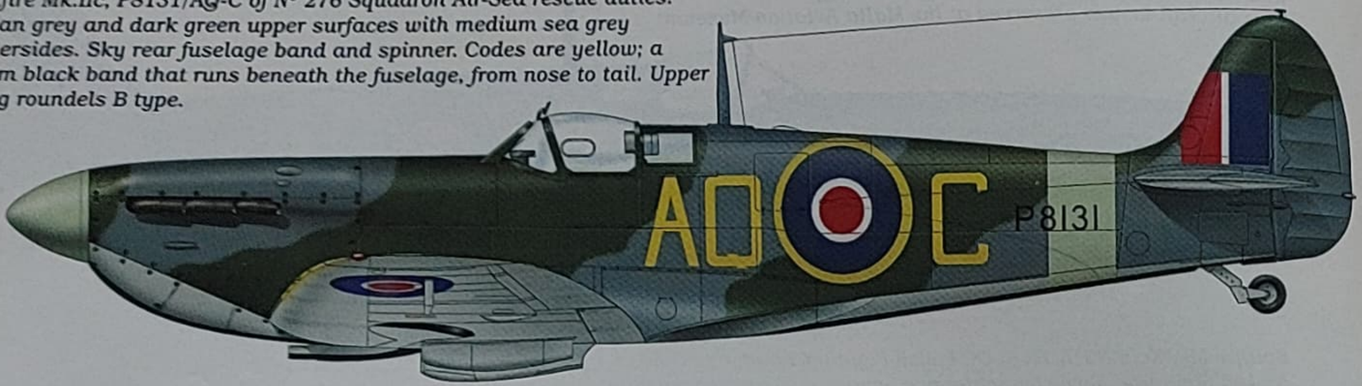
Spitfire Mk.IXc, RK855/FT-C, of Nº 43 (China-British) Squadron, Austria, 1946. Dark green (FS. 34079) and ocean grey (FS. 36125) upper surfaces with medium sea grey (FS. 36270) undersides. Bright red spinner and codes, edged in white. Sky (FS. 34424) rear fuselage band and black/white checkers on top of fin. The upper-wing roundels are Type C, similar but larger than the under-wing roundels.



Spitfire Mk.IXc, MK463/VY of Nº 134 Squadron, flown by Wing Commander T. Vybíralovi. Dark green (FS. 34079) and ocean grey (FS. 36125) upper surfaces with medium sea grey (FS. 36270) undersides. Medium sea grey codes; sky (FS. 34424) spinner. 45cm wide black/white invasion stripes around rear fuselage and above and below both wings. Type B roundels on top of the wings; note the command pennant and Czech flag ahead of and under windscreen.



Spitfire Mk.IIc, P8131/AQ-C of Nº 276 Squadron Air-Sea rescue duties. Ocean grey and dark green upper surfaces with medium sea grey undersides. Sky rear fuselage band and spinner. Codes are yellow; a 30cm black band that runs beneath the fuselage, from nose to tail. Upper wing roundels B type.



Spitfire Mk.Vc, JK322/FL-4 'Joy,' of Nº 81 Squadron, Sicily, August 1943. Dark earth and mid stone upper surfaces, azure blue undersides. Bright red spinner; insignia red codes, outlined in white. 'JOY' in white under windscreen. Standard markings for the period, with B type roundels above wings.

Spitfire Mk.VIII, MD183/NX-B, of Nº 131(County of Kent) Squadron, summer 1944. Ocean grey and dark green upper surfaces; medium sea grey undersides and squadron codes. Sky rear fuselage band and spinner. Black/white invasion stripes applied under the wing and under rear fuselage, the latter partially covering up part of the aircraft identity letter. Although the wings are the standard 45cm width, those on the fuselage are only 22cm wide.

Spitfire Mk.XIV, TP236/RAI-A of Nº 602 (City of Glasgow) Squadron, 1947. Ocean grey/dark green/medium sea grey (FS. 26152/24079/26270). Sky spinner and codes (FS. 24424). Serial repeated in black under the wings.

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